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The Marseilles Main Drainage Scheme.

THE renewed outbreak of cholera at Marseilles has at last stirred the authorities to action. The Minister of Commerce went in person to Marseilles, and now we are informed that the Minister of Public Works has made a grant of 24,000*l.* so as to enable the town to build sewers. During the epidemic of last year, M. Guérard, Chief Engineer of the Special Maritime Services, carefully watched the development and progress of the disease. Tracing every case to its home, he marked with a black spot every house in the map of Marseilles where a fatal case of cholera had originated. By this means M. Guérard was soon able to demonstrate that cholera was more frequent and more fatal in all the streets possessing no sewers or which were badly paved. M. Guérard then drew up a report on the entire subject and proposed, as a commencement, a system of main drainage which, at the cost of 48,000*l.*, would prevent the contamination of the Old Port. It is a portion, in any case, of this scheme which will now, at the eleventh hour, be executed. The geographical position of Marseilles, the importance of its commerce, renders its sanitary condition a matter of universal concern; and, now that the cholera has once more attacked this port, M. Guérard's proposals are of considerable interest. In a lecture, delivered before the Scientific Society of Marseilles, M. Guérard alluded in the following words to the general condition of the town:—

"The custom, dating from the good old times, of throwing every sort of filth out of the windows will only be obliterated with great difficulty. There are some persons who do not even give themselves the trouble of carrying their refuse to the gutter, but throw it into some back yard where all the soil and garbage accumulates, and is only removed when it is materially impossible to let it remain there any longer. It is surprising, under such circumstances, that there should still exist many wells yielding uncorrupted water.

"Marseilles is built on non-permeable soil; what is thrown on the surface only penetrates the superficial layer artificially formed, and which is always porous to a certain extent. The soil of the streets, the sub-soil of the houses and the back-yards have been impregnated, in many places, with excremental matter, and this has continued now for many centuries."

M. Guérard then proceeded to give statistics proving how typhoid fever and other diseases akin to cholera had been reduced by building sewers that prevented the contamination and facilitated the drainage of the sub-soil. This is notably the case at Brussels, where the average monthly death-rate from typhoid fever has been reduced from 16·5 cases (1864 to 1873) to 8·5 cases during the period between 1874 and 1880.

Marseilles is supplied with the water of the river Durance brought to the town by a magnificent canal and aqueduct, which cost nearly two millions sterling, and measures 81,625 mètres in length. Then there are also the waters of the river Huveaune, the spring of La Rose, and a number of wells dug in all parts of the town. The water of the Durance is distributed in every part of the town and the outlying districts, while the other supplies are limited to certain quarters. According to the figures given by the engineers of the Canal and the La Rose Companies, Marseilles receives every second 1,550 litres of water for drinking and industrial purposes from the Durance; 1,650 litres for public services, and 3,800 litres for irrigation. This makes a total of 7,000 litres per second. The Huveaune gives 100 litres per second, 75 litres being for domestic purposes; the Rose, 5 litres per second for domestic purposes. Without counting the well-water, we have a total of 7,105 litres per second. In round numbers, this equals 614,000,000 litres per day, or 2,000 litres per head per day. Considering, however, that half this is used for irrigation purposes, it would perhaps be more precise, when speaking of the sanitary aspect of the question, to set down the daily supply at 1,000 litres per day per head, or about 200 gallons. In a word, the provision of water is ample; indeed, it is one of the largest of any town in Europe. Further, in this respect it is important to note that the cholera broke out at Marseilles some time before any of the regions whence the water supply is obtained were affected. Some theorists have pretended that water is the only vehicle capable of conveying the germs of cholera, but these facts seem to defeat such a statement. In the districts supplied with the water of La Rose, namely, the Madelaine, Lonchamps, St. Michel, Préfecture and Palace of Justice, there were very few fatal cases of cholera. The waters of the Huveaune reach both the north of the Old Port and the districts to the south of the Old Port; and here, again, the number of fatal cases was small. There is nothing to indicate that the drinking-water had any influence on the epidemic. Therefore, in the sanitary works advocated for Marseilles, the question of water supply is not raised. Of course, it is urged that private wells should be abolished, and the use of the town supply rendered compulsory. This being the case, the question of the sewers and of purifying the port holds the first rank.

So far back as 1849 an elaborate project for the drainage of Marseilles was drawn up by M. de Moutricher; but it would be now of little practical use to examine the details of this plan. Its most original feature was a proposal to create a canal for the purpose of pumping into the port a certain quantity of fresh seawater. As there is next to no tide in the Mediterranean, the water in the port of Marseilles remains, comparatively speaking, stationary; hence it becomes particularly foul. From the district called Les Catalan, which faces the open sea, a conduit was to have been built, ending at the bottom of the Cannebière, where this celebrated thoroughfare terminates at the head of the Old Port. An engine of 45-h.p., which should never cease working, would pump every second into the Old Port 1½ cubic mètres of clean seawater, brought from Les Catalan. By this means it was calculated that the entire volume of water in the Old Port would be changed twice a month; and thus was the harbour to be purified.

Many other schemes have from time to time been proposed. One was an ingenious idea of utilising the waves that dash up the breakwater outside the port. When the waves reached a certain height they were to topple over into a sort of reservoir, aud the water from thence would travel along a canal, and reach the far end of the port, and there be admitted, so as to cause an outgoing current. There were proposals also for disinfecting the port chemically.

All these suggestions had, however, the grave defect of dealing with the effect instead of seeking to remove the cause. Even if a very large volume of clean salt water could be thrown into the port, it would not produce the desired effect, for it would not move the heavy deposits at the bottom of the water.

The surface of the Old Port measures 263,000 square mètres, or 26 hectares 34 mètres. The tide, such as it is, causes a rise and fall of 30 centimètres, and this introduces 79,020 cubic mètres of water, or 150,000 cubic mètres per day, that is, two cubic mètres per second. Yet this natural movement, which is greater than that to be produced artificially by M. de Moutricher's scheme, fails altogether to prevent the grievous fouling of the port. The use of waves, as a motive power for cleansing ports, has been tried and with success on the coasts of Syria; but the prevailing winds must be favourable and the ground section must afford a sufficient fall. These conditions do not exist at Marseilles. The action of the waves would only be effective at Marseilles when the wind

came from the south-west and north. But it is principally during the periods of calm and excessive heat, that is, when the southern winds blow, that the purification of the port is most necessary. As for the use of disinfectants, this was tried on the much smaller surface of the Canal des Douanes and did not give any encouraging result.

The real point at issue is not how to disinfect or to flush the port, but how to prevent its contamination. One large sewer at Marseilles has its outfall direct into the sea. This is at the new docks called La Joliette. Most of the other sewers and gutters fall into the Old Port. There the sewage stagnates and makes deposits that have to be dredged out every year; otherwise the port would soon be filled up with solid sewage, and the ships could no longer enter. The municipality, during the recent epidemic, appointed a commission to inquire into this question; and this body finally adopted, principally at M. Guérard's suggestions, the following project:—

The scheme is divided into two sections. The first consists of the construction of a sewer which would form a belt round the port, but would be built at a sufficient height and distance from the port to enable its contents to drain by gravitation into the sea, either to the south of Marseilles, at the Catalan, or to the north, beyond the jetty, into the open sea, after passing under the Joliette Docks by means of a siphon. The second part of the scheme consists of making another sewer under the quays of the Old Port, and below water-mark. This sewer would receive all that came from the district below the other or upper sewer. The sewage would flow into a basin to be built near the Canal des Douanes, to the west of the port, and from this point it would have to be pumped up into the higher-level sewer.

The higher belt is divided into two branches. The southern branch, starting from the sewer already existing in the Rue Saint Ferréol, runs under the Rues Grignan, Breteuil, Sainte, Fort Notre Dame, Neuve St. Cathérine, crosses the Place St. Victor, follows the Boulevard de la Corderie, and falls into the sea between the bays of the Catalans and the Auffes. A siphon would be established under the railway line that goes down to the Old Port. The total length of this branch would be 2,447 mètres, and there would be a fall of 0·008 mètres for a distance of 131 mètres; of 0·00172 for 1109 mètres and 0·0005 for 1,207 mètres. The sewer, it is suggested, should have an invert 90 centimètres wide and 60 centimètres deep, with a ledge on each side 40 centimètres broad, surmounted by a vault 1·70 mètre high and 2 mètres wide.

The northern branch, in the course of its travels, forms a loop. Starting near the new Cathedral at the Place Leuche, it goes through the upper portion of the old town, passing by the hospital, then crossing the lower part of the Rue de la Republique, the Place Jean Guin, on to the Rue Colbert and the Cours Belzunce, where a large sewer already exists. Having gone thus far in a westerly direction, the main sewer would now take a northerly course towards the Rue d'Aix, and then return eastwards by the Rue des Dames till it reached the higher portion of the Rue de la République, and follows this great street down to the new docks of the Joliette, where the outfall is beyond the sea-wall in to the Mediterranean. The total length would be 1,070 mètres, with the following falls:—On 74 mètres, 0·048 mètre falls; on 523 mètres, 0·012 mètre fall; and on 473, only 0·001 mètre. The section of this sewer is designed in an ovoid form, 2 mètres high and 1·30 mètre wide. At the Place Jean Guin and the Rue de la Lune d'Or, the soil being low, two galleries would be substituted for a distance of 150 mètres, having each a circular section of 1·30 mètre diameter.

The lower-level main sewer would follow the entire embankment, or quays, of the Old Port, and go round the Canal des Douanes. Starting on the northern side, at 0·82 below low-water mark, it would arrive at the pumping station at 4·62 mètres still lower down. The length of this sewer is estimated at 1,518 mètres, its fall about 0·0025 mètre. In shape and size it would be similar to the sewers described above. The cost is set down at 10,721*l.* for the lower-level sewer, 17,990*l.* for the higher-level sewer, and 14,600*l.* for the pumping station; this, with extras and unforeseen expenses, is roughly estimated at 48,000*l.* The higher-level sewer should be constructed first; for it would receive from the sewers of the Rue Cannebière and the Rue Breteuil by far the larger part of the sewage which now actually falls into the harbour. It is probably this portion of the project which will now be at once executed with the 24,000*l.* given by the Minister of Public Works.

Unfortunately, these works, though doubtless excellent in themselves, leave the drainage of the greater part of the streets and of all the houses of Marseilles, in their present deplorable condition. The port will be purified undoubtedly, but the inhabitants who were the most exposed to the emanations from the port were not the greatest sufferers from the cholera epidemic. Of course, in other respects, the foul water, though salt water, must prove injurious, and anything that will cleanse the port will prove a benefit to all travellers, and will render our communications with India and the East far more pleasant. But it is the system of house-to-house inspection, sanitation, and improvement that is the most urgently needed in Marseilles.

"PROFESSOR DONALDSON."

A PERSONAL NOTE.

BY GEORGE GODWIN, F.R.S.

THE Editor of the *Builder*, with a few able and telling touches, has already reminded his readers of the sort of man we have just now lost, and has mentioned his principal works, architectural and literary, and his claims on the memory of the public. I am unwilling, however, to let the grave close over the remains of Thomas Leverton Donaldson, Emeritus Professor of Architecture at University College, London, and the greatest friend the profession in England has ever had, without casting in a wreath, and expressing, even if briefly, the great respect and sincere affection I have long entertained for him. Drawing lines with a T-square, as a boy in my father's office, Mr. Donaldson, entering accidentally, took from a roll under his arm a drawing of the well-known frieze of the Temple of Vesta at Tivoli, and gave me then and there my first lesson in free-hand drawing. From that time to the day of his lamented death the connexion has been unbroken; we were engaged together in several undertakings; I have received from him some hundreds of letters, many of which are now before me, and a few extracts from these will probably be found interesting and assist in presenting a picture of our friend to those who come after. One of the earliest memories that occur to me is that of a *conversazione* given by him at his house in Hart-street, Bloomsbury, soon after the decision on the designs submitted for rebuilding the Houses of Parliament, when much commotion was caused by the fall of a large chandelier. Many of the competitors were present, and a few minutes before the disaster Mr. Barry, afterwards Sir Charles, had been leaning under the chandelier examining some capital drawings by J. D. Harding. The host lessened the prevailing dismay, and led the way to a resumption of the gaiety which had prevailed by proposing for discussion the question, whether if the brazen delinquent had wrecked the successful competitor as well as the table the incident would not have afforded more pleasure than pain to many of his guests. Harding's drawings were ruined, and much commiseration for Donaldson was expressed on that head. The artist, however, behaved handsomely, refusing to accept, as I heard afterwards, anything more than a comparatively trifling *solatium*. A quarrel grew out of this competition, some will remember, which led to much talk at the time, and, strange as it may sound now, had nearly resulted in a duel. Mr. Savage, the architect of Chelsea Church, and one of the competitors, took objection to some of Mr. Donaldson's proceedings in connexion with a meeting of the competitors, and two well-known lines from *Hamlet* were angrily quoted:—

> "My tables, my tables,—meet it is I set it down,
> That one may smile, and smile, and be a villain."

The intervention of friends brought matters to a peaceful ending. Both the would-be combatants, not to speak it profanely, were short "tubby" men, and, though they themselves discussed the matter with great gravity, some of the outside commentators did not.

One of the earliest letters before me refers to the first competition for the Royal Exchange, the result of which greatly disappointed Donaldson. He writes:—

"At present the affair stands thus: Messrs. Smirke, Hardwick, and Gwilt were asked to make a conjoint design. Smirke declined, but the others accepted the task. Then came my application and Mocatta's to the Common Council, which being referred to the Grand Joint Committee they decided upon considering their proposition to the three original architects as nullified by the refusal of Smirke. But the other two were requested to re-consider the eight designs named in the report, and to return two or more which were the most eligible *or perhaps the least ineligible*. They, however, declined to do this. George Smith applies to the Committee to submit a design of his own, this, the Committee refuse to allow, but come to the resolution that, whereas 51, 36 (?) and 27 were the finest designs, that one of them ought to be selected and carried into effect—that the three to which the premiums had been awarded and paid should be packed up and put by, and numbers 4 and 5 (Wyatt's and Pennethorne's) returned to the authors—that I, Cockerell, and Richardson, and Mocatta should be examined by G. Smith, who should report upon the estimates, practicability, eligibility, and *rental*. Cockerell and I are having estimates made. Mocatta says he has his ready cut and dried; but would you believe that the Committee will not let us have our drawings home to prepare the estimates, but insist upon our going there (to Mercers' Hall) with our measurers to take out the quantities.

"In confidence I will state my apprehensions. Mocatta has powerful moneyed interest in the city, and . . . his friends are moving heaven and earth for him, on the plea that his plan is more commodious, less wasteful than mine in its arrangement, and will produce a much greater rental. The Mercers are mad upon having as great a return as possible upon the letting of the building. They want to realise 10,000*l.* per annum, and little care how it is produced. In all this there is great trick and manœuvring. The Jews would be in ecstasy were one of the tribe of Israel to be the architect of the Royal Exchange of London, as is natural. Now, I have no interest whatever in the City. The patrons of intrinsic merit are seldom influenced by as warm feelings as those who are urged by interested motives of a personal kind, so that I have nothing to plead my cause except the design itself. I have been most highly gratified by the testimony borne to my drawings by my professional brethren, who have come forward so handsomely to express their approval of the design. This does not render me sanguine, but it encourages me to struggle on to retain the position in which I have been placed and from which I fear I shall be put aside from considerations foreign to the subject. It is very mortifying, but I suppose I am only experiencing the fortune of much greater men."

As every one knows, the affair ultimately took an entirely different turn, and the commission went into the hands of Mr. Tite, afterwards Sir William. Mr. Donaldson's design had some very fine points. He took a prominent part in another important competition,—that for H.R.H. the Prince Consort's Memorial, concerning which, in 1863, he writes:—"We, the competitors, were invited to go and see the drawings at Windsor Castle on Saturday. Digby Wyatt and I agreed to go together, and we met Pennethorne at the station. We all agreed that the series by G. G. Scott were magnificent in execution, and as pictures beat all the others out and out. As designs, of course taste must vary, but there was immense talent and taste and effect in his. He has only one design for the memorial,—like a tabernacle in a Roman Catholic Cathedral, as a piece of magnificent furniture and metal-work, 180 ft. high. He has four or five designs for the Hall of Science, very fanciful and in their way very beautiful. The interior view is a most lovely drawing, quite irresistible in point of grace and colour. We all felt that Scott must have it, and our impression is that the memorial in the Park will be abandoned, and that the Hall of Science with a very fine statue in it will be the memorial."

His labours for many years in connexion with the establishment of the now Royal Institute of British Architects, and his devotion to its interests are well known, not alone in England, but all over Europe. As Honorary Secretary and afterwards Honorary Secretary for Foreign Correspondence he worked perpetually to extend its influence. It would be easy to write much on this period of Mr. Donaldson's life, but I forbear. Some trouble was caused in the early days of the Institute by a rule on the books of the Royal Academy, which seemed likely to keep out of its ranks any architect who became a Fellow of the Institute. It is unnecessary to say that those who hesitated on this ground found little favour in the sight of Donaldson. "I am very sorry to say," he writes, "that Hardwick is coquetting with the R.A. for his Academicianship. He wants the R.I.B.A. to let him slip away from them lest he should be disqualified, as a Fellow of that body, from being a R.A. I want him to show more moral courage, to offer himself boldly as a Fellow of us, and let the R.A.s, if they dare, reject him on that ground. 'Sir Filippo' must be with us or against us. If he wishes to shirk the R.I.B.A. he must leave us altogether; but, if he does, he will sadly lose in the estimation of all, whether his professional brethren or honourable men in society." The doubt was ultimately set at rest by Barry, who refused to give up his position in the Institute, and was elected an Associate of the Academy notwithstanding. A fine fellow was Sir Charles Barry.

A memorandum from Donaldson, dated 1847, serves to illustrate the history of the Queen's gold medal. Here it is:—"I am working away on the question of the Royal medal at the R.I.B.A. We had a meeting at Lord de Grey's on the matter yesterday (a private one), and the Council meet to-morrow evening. I have hopes of a more noble appropriation of the medal than to youths for pretty drawings, and likewise of giving for the youths more prominence to the Soane medal."

At times he was very despondent, and felt he was not regarded as he should be. Thus, during a struggle for the President's chair at the Institute, he writes:—"As regards myself, I am no longer ambitious; and experience has taught me that the dreams of earlier years are not for me, and that the refining progress of Hope deferred need not necessarily lead to the result stated by the wise man, but rather to purify the mind and raise other aspirations higher still. I could have wished that, at least, one of the secretaries to the R.I.B.A. should be a senior in the profession. Earnestness and zeal are not always necessarily seconded by wisdom, and experience does much to produce it."

Earlier in his life it had occurred to him that the press scarcely gave him as Professor of Architecture at University College, or his brother professor at King's College, that assistance and encouragement he thought he might have looked for. Here are his thoughts on the subject:—

"In my own case I give every year about 100 or 120 lectures. I stimulate the pupils as much as possible. I take them to the buildings of chief importance in the metropolis and point out their merits of design and execution; the demerits they can themselves perceive. I have hundreds of illustrations, and I have various experiments more fully explanatory of my principles. And I am gratified to say that a class of thirty amply repay by their attention and conduct the pains I take, and their notes are really full of intelligence. Yet, with all this painstaking and anxiety, the papers do not condescend to notice such labours of professors by a kind word; do *not* encourage by a friendly remark; do *not* recommend. If we did no more, surely it cannot be in vain if we point out the subjects to be studied, the method to be pursued, the sources of information to be consulted, the works that have been executed, and the merits of the great men who have done great works. Those who follow my course have all the materials of mortars and cements, the lime slaked, the mortar mixed, and bricks and tiles united, before their eyes by cement,—in fact, all the processes of construction,—it must be confessed, imperfectly; but still their attention is directed to points for observation, and they get the method of observation."

The illustrations mentioned in the letter were excellent, many of them made with his own hands, and have been handed down first to his immediate successor, the estimable Professor Hayter Lewis, and are now used by Professor Roger Smith. Mr. Donaldson sketched well. Only a few years ago, when he visited Egypt, he brought back a large number of agreeable and interesting drawings. To save time, he often employed a *camera lucida*. On one occasion he writes: "I have been examining a *camera lucida* invented by our Corresponding Member, M. Revoil. I use greatly our old *camera lucida*, and doubt whether this supersedes, nay, equals, it. It is not so compact for carrying about and use; and I think ours gives the distant objects quite as large. M. Revoil is author of the fine work "Architecture Romane du Midi de la France," and other publications on the antiquities at Nîmes and elsewhere; he resides at Nîmes, and is an Active Correspondent of the Institute."

Mr. Donaldson early joined me in the foundation of the Art-Union of London, and remained one of its most active and useful supporters to the last. He was one of a small committee who drew up an admirable report on its possibilities which was of great service in shaping its course. He fully understood its value. Thus, during the time of the Parliamentary Inquiry as to Art-Unions, which was carried on in 1866, he writes:—"I hope to meet you to-morrow and have a few minutes' chat as to evidence before the Committee of the House of Commons. I think we must dwell much upon the educational purposes of our Art-Union, and the object, to instil a love for art in the middling and lower classes by the diffusion of good productions,—as our prints and series of illustrations, "Pilgrim's Progress," the "Idylls of the King," and the "Norman Conquest of England"; the promotion of good line-engraviving, we being now almost the only executors of works of purely line-engraving of any size at this moment; our encouragement of medal die-engraving; and our introduction of able men such as Henry Selous and Prioli as book-illustrators. We might speak too of the many works of art sent by us to the colonies and foreign parts."

Warm-hearted and impressionable, he never failed to show how fully he participated in the troubles of his friends. In this connexion I shall probably be pardoned for printing a note dated June 23, 1863, though it includes references to a personal loss:—

"I sympathise deeply in your sorrow for one of the best of fathers, whose loss must be irreparable to you, and whose sweetness of disposition endeared him to all who had the privilege of knowing him. I entertained for him the most sincere regard and respect, for he was very kind and considerate with me in a difficult case, when I was, as a young man, entering upon professional life. Sweet is the memory of such a man, whom all must have loved,—and, at the same time that we feel for your sorrow, we are sure that your memory must ever dwell upon the remembrance of him as one of the best, kindest, and most judicious of friends and fathers. I return to my home this evening and find two of the saddest announcements,—your loss, and the death of my equally-excellent friend Ludwig Förster, of Vienna, on the 16th inst., in the sixty-seventh year of his age, your colleague as the literary chronicler of our art. He had been ailing for some time, and some months since went to Venice in search of health, and whence I received from him, some weeks ago, a charming letter (equal in interest to Hittorff's), written playfully in Italian. He was a very dear friend of mine also,—a man of sound judgment, of the noblest principles, notable for his firmness of character, a sound Protestant and patriot, and held in deservedly high estimation at Vienna, where, as a politician also, he took part in the leading liberal movements of the day. May both rest in peace, honoured on earth, accepted in Heaven!"

Let me give another example in the letter he wrote, when asked to pen a few notes on the death of Sir William Tite:—"I have not the heart," he says, "to write about one with whom I have been intimately connected for these last several years, and whom I have lost so recently. And I have so often written necrological notices, that at length my pen falters. Had I the spirit which I once possessed, I could dwell upon the many noble qualities of our deceased friend. A man of acute perception, vigorous judgment, and firm decision; munificent to a princely degree; generous to every claim of want and misfortune; active to serve his friends and all members of the profession; a true lover of literature and the arts; with his purse open as his heart, having not only the means, but the will to do good. He was a rough diamond, impatient of opposition or control, and with no consideration for those who attempted to impose on or oppose him. He had a determined energy in all he thought and did; indefatigable, for he was never idle. It is a pity that architects will attempt to disturb the well-earned reputation of their deceased brother professionals, and that young Grellier should attempt to claim for his father the design for the Royal Exchange; with much greater grounds might I have urged my pretensions for the façade, when Tite told me *himself* that he had taken my portico. Grellier's was not the first; mine was the first of the highest class."

Mr. Donaldson, Mr. Penrose, and the writer of these notes were called in by the Lords of the Privy Council, at the suggestion of Sir Henry Cole, 1857, to arrange, name, and date, so far as was practicable, the architectural casts belonging to the Government, including a large collection that had been made by Sir Charles Barry, to facilitate the works at the Houses of Parliament, and this was done with some pains. It may be as well to print the first memorandum on the subject received from Donaldson:—"We shall I presume recommend in order to render the casts fully valuable, as objects of study, that the separate fragments of one subject be put in combination so as to complete the subject, and in juxtaposition with like objects for the sake of comparison. This is the only way to render them really available. If treated otherwise, they are only fragmental and deficient in the sentiment and meaning belonging to the whole entire object. What should we think of the head of the Apollo or Venus on one screen, the arms on another, the legs on a third, and the torso on the shelf?" Whether or not these casts are now kept together and made available I do not know. Since the present able manager, paraphrasing a well-known line, has given up to mankind what was meant for South Kensington, there has been a lengthened lull in that direction.

I will take two or three more letters on subjects of independent interest. Here is one, for example, that refers to an early Association of London Architects, and to one of its members who did good service, Joseph Woods. "I have written," says Donaldson, "to my friend Joseph Woods, author of the 3rd vol. of Stuart's 'Athens,' of 'Letters of an Architect from Greece and Italy' (a very striking work, and remarkable for the period), and architect of the Commercial Sale Rooms, Mincing-lane, &c., respecting the old Architectural Association, and enclose his reply. I had thought, and think still, that an elder brother of mine, dead fifty years ago, was one of the body. However, Mr. Woods's memory is good, and so I stand corrected. Joseph Woods is one of the most estimable of men, and retains his faculties remarkably well, although eighty-four, and more. Mrs. D. and I spent two or three days with him and his sister last year at Lewes. There he was, in his study, finishing up some of his Grecian studies made above forty years ago, and discoursing of arts and artists with great vivacity, and of the reminiscences when we were together at Rome, and we knew Canova, Camuccini, Thorwaldsen, and other men of mark there, and John Soane, jun., Basevi, Bond, Saunders, Geo. Rennie, sculptor, and other such, now passed away. Hardwick and myself used to go to his rooms, and we read Goldoni and Alfieri together, and battled it out on many questions of taste regarding Greek and Roman architecture. To-morrow I am going down to Oxford to value the property of Christ Church for assessment to the town rates, appointed the valuer by the Poor Law Board, as I was two years ago the referee to decide the assessments of the Colleges and University of Cambridge."

Mr. Woods, in reply, is not able to speak positively as to who were members. He writes, however:—"James Savage was certainly one, and Edmund Aikin, also Samuel Bearley. I saw a good deal of him about that time. Billing and Birkhead, no; Bubb, a sculptor. Charles

Augustine Busby had been my fellow pupil at Alexander's; Cood, maker of artificial stone; Lowry, the engraver, we used sometimes to see, but I doubt if he was a member; Perry, no; Schroder, a sugar-baker; I think neither of the Smiths; Josiah Taylor, the bookseller; J. Wallen was also at Alexander's, but whether he was a member or not I do not know; he and Taylor, I think, are both dead. I think there were one or two more whose names I cannot recall, but Joseph Parkinson was certainly one of us. We published separately a book on the Doric order, written by Edmund Aikin, which brought us into trouble, for Wilkins got an injunction against it. The statements did not profess to be original, and Wilkins was largely quoted, but there happened to be one place where he was not cited, which induced the court to grant the injunction. Afterwards Wilkins consented to withdraw his opposition on condition that his crotchet about the Temple of Solomon as a Doric building should be omitted in Aikin's book. N.B. This was not the passage on which the injunction was granted."

Some comments having been made on one of Mr. Donaldson's papers by Mr. Jermyn, he at once writes a justification, first telling me that his paper was written for a general audience in general terms:—

"Dion Cassius is, according to Burgess, in his work on Rome, the authority for the story about Apollodorus losing his head for his daring criticisms of Hadrian's design.

My allusion to the sizes of columns was also intended as a general illustration of the scale of the Roman buildings built of marble, and, without meaning to particularise, I had in view the Mars Ultor, which, according to my dimensions, I calculate to have been 6 ft. 1·6 in. diameter, and 57 ft. 11 in. high, which in round numbers I gave as 6 ft. in diameter, and 60 ft. high, thinking that the memory better retained round numbers than broken ones.

To give you some idea of diversity of opinion as to dimensions, I will compare Mr. Jermyn's with Taylor and Cressy's dimensions of two temples:—

Jupiter Stator.

	Mr. Jermyn's.		Taylor and Cressy's.	
	ft.	in.	ft.	in.
Diameter of columns	4	5	4	10·2
Height	45	3	48	4·9

Jupiter Tonans.

	ft.	in.	ft.	in.
Diameter of columns	4	4	4	8·3
Height of do.	44	0	46	5·2

And Taylor and Cressy's dimensions are considered to be generally accurate.

I did not state the Pantheon dome to be twice the size of that of St. Paul's. What I did state was that the Pantheon dome was 142 ft. in diameter, and St. Paul's a little more than 100 ft. Its precise diameter at the base is, I think, 101 ft. 6 in.

As regards the tomb of Hadrian and the columns of St. Paul's without the walls, I mentioned what is the tradition at Rome, and the account recorded by Vasi in his 'Itineraris'; but on reference I find in pencil on the margin of my own book the probability of the columns being taken from the Basilica Æmilia."

Turning over these old letters, one is tempted to refer to incidents the mention of which might seem egotistical. Thus, in one of them, "Donny," as he was affectionately called by some of his intimates, speaks in the warm language common to him of a dinner given by the present writer, the guests at which were mainly architects, with a sprinkling of engineers and men of letters. "Every one," he says, "was well pleased, and we shall not easily forget that happy evening." I can recall as amongst them besides Donaldson, Cockerell, Barry, G. G. Scott, Sydney Smirke, Tite, Digby Wyatt, Wentworth Dilke, the father of the present untirable member for Chelsea, and Robert Rawlinson, then fresh from Liverpool. Probably because the leading members of the profession then met together less often than they do now, this dinner was often talked about; only a few months before Digby Wyatt's untimely death, he boasted good-naturedly, with the tears in his eyes at the same moment from bitter dread of what was coming, that he was the youngest man that had been invited on that occasion. Sir William Tite, a day or two after the dinner, having had a little fight with Mr. Rawlinson (who was the trusted friend of Elmes), as to the completion of St. George's Hall, said that he ought not to have been included, not having won his spurs. Donaldson was more far-seeing, and prognosticated for him an eminent career, a prognostication which has been more than fulfilled. "Where is that *barty* now?" Sir Robert Rawlinson, unless I am mistaken, is the only member of it who remains amongst us.

Considerations of time and space suggest conclusion, or I would gladly speak, among other incidents, of a remarkable week passed with Donaldson in Antwerp when, on the occasion of a Rubens Festival, we represented by invitation with Wyatt, David Roberts, and others, several English art bodies. Some of Donaldson's speeches, in fluent French, during the business part of the proceedings, surprised all who were not previously acquainted with him. This and many other matters, however, must be passed over. His latter days were spent happily. After the death of Mrs. Donaldson, an interesting and wise lady, his sister, Miss Donaldson, and his son, Mr. Thomas Olinthus Donaldson, tended him with affectionate care.

NOTES.

IT is gratifying to find that after a very long dispute, interrupted by several divisions at various stages, the clause of the "Housing of the Working Classes" Bill which suggested the sale of the prison sites at artificial prices was, on Tuesday night, practically left in abeyance for the present, the Home Secretary recognising the fact that as the discussion proceeded there was at least an increasing minority against the clause. The speech of Mr. Bryce on the subject deserves careful attention. The amount of the subsidy (for such it practically was) which was proposed might, he said, be relatively small, but the principle involved was a large one. "Supposing the land on which the prisons stood was worth 10,000*l.* an acre, and it was sold under the Bill to the Metropolitan Board of Works for 8,000*l.* an acre, that would be a subsidy on the part of the State to the amount of 2,000*l.* an acre. How was the Metropolitan Board of Works to deal with the dwellings to be built on these sites? Was it to let them at the ordinary market price? If it did, it would make a profit corresponding to the difference between paying 8,000*l.* and 10,000*l.* an acre. Was it intended that the Metropolitan Board should become a landlord, making a profit? That was a very undesirable function for it to assume. Yet there was no advantage in selling the site below the market price unless they were to let the dwellings below the market price. On the other hand, if the dwellings were let below the proper market rate *the influx of people into London would be encouraged, and the great evils arising from the undue pressure of population would be stimulated.*" That is exactly what some of the benevolent wise-acres, who are bestirring themselves on this subject, cannot for the life of them see. London is suffering enormous evils from overcrowding; let us offer additional inducement to poor and struggling persons to crowd into London! That is just what it comes to.

THOSE who have to consider the question of repairing the buildings of a benefice under sequestration have now to bear in mind that they are tied and bound by the provisions of the Ecclesiastical Dilapidations Act, 1871. The recent case of Kimber *v.* Paravicini, Law Reports 15, Queen's Bench Division, p. 222, shows how easy it is for well-meaning persons to make a costly mistake in regard to this subject. The benefice of Avening, in Gloucestershire, was sequestrated by writ, and the Bishop's secretary,—a solicitor,—was appointed sequestrator. After the sequestration, the diocesan surveyor was directed by the Bishop, under the above Act, to inspect the glebe buildings, and to estimate the cost of their repair. He accordingly did so, and reported that the necessary repairs, as set out in the annexed specification, would cost 140*l.* By the 16th section of the Ecclesiastical Dilapidations Act, 1871, objections to the report of the surveyor must be sent in within a month after a copy of it has been sent to the Incumbent and the sequestrator. By the same section, if no objection is taken within this period, the report becomes final, and this is what occurred in the present case. Presently a fresh surveyor was appointed. The sequestrator himself afterwards visited the premises, and came to the conclusion that the estimate of the former surveyor was wholly inadequate, and that very considerable repairs were required in order to properly maintain the buildings. These repairs were accordingly put in hand, and cost 780*l.* Mr. Waller, the new surveyor, visited the buildings from time to time, and made recommendations to the sequestrator, but the Bishop did not at any time direct him to make an inspection or report. There was really no question that all the work was necessary, but the Incumbent excepted to the accounts of the sequestrator on the ground that he was not entitled to spend more on the benefice than was stated in the report, and he therefore asked for all the items other than those mentioned in the first surveyor's estimate to be disallowed. The consequence of this opposition was that the Court came to the conclusion that the Incumbent was in the right, so that it would seem that the unfortunate sequestrator would have to pay all the cost above 140*l.* out of his own pocket. It was contended, on his behalf, that, as before the Act of 1871, he had power to do anything necessary to keep the buildings in proper repair, he still had it under the saving clause of the Act of 1871. But it was pointed out by Lord Coleridge that the twelfth and following sections seem expressly to apply to such a case as this. The Bishop could at any time have ordered the surveyor to make a report during the sequestration, and then, following on it, the necessary repairs could have lawfully been made and charged against the revenue of the benefice. But in addition to the fact that this case shows that the provisions of the Act must be carefully followed, it further calls attention to the necessity that the report of the surveyor,—especially in a case of sequestration,—should be full and correct. We say in a case of sequestration, because it affects third parties, who are waiting for their money; and every one, incumbent, creditor, and bishop, should know the exact position of matters. If the Bishop of Gloucester's surveyor had, in the first instance, made a comprehensive report, all the subsequent proceedings would have been unnecessary.

THE dividend of the Primate of English Railways, the London and North-Western, for the half-year, is officially announced to be at the rate of 6 per cent. per annum, against the same rate in the corresponding period of 1884, and 7 per cent. per annum in 1883. The Great Western pays 4½ per cent. per annum, carrying forward 8,500*l.*, against 5 per cent. last year, when 7,183*l.* was carried forward. The Great Northern Railway directors declare a dividend at the rate of 3 per cent. per annum on the original stock, carrying forward a balance of 3,136*l.* The diminution in the traffic of this line for the half year has been 18,560*l.*, falling to 1,775,538*l.* from 1,789,469*l.* The working expenditure has increased by 2,346*l.*,—the co-efficient of working costs being thus a little more than 59 per cent. On the London and South-Western Railway there has been a decrease of 6,733*l.* in revenue, and an increase of 19,802*l.* in working expenses, the co-efficient of working cost having risen from 58·2 to 59 per cent., and the dividend having declined ½ per cent. as compared with that fatal first half-year of 1884. The Maryport and Carlisle divide at the rate of 7¾ per cent. per annum, against 9 per cent. for the corresponding period of last year. The directors of the Midland Railway recommend a dividend on the ordinary stock, for the last half-year, at the rate of 4¾ per cent. per annum, against 5 per cent. for the corresponding period of 1884. Thirteen thousand pounds are carried forward in the present accounts, against 12,900*l.* last year.

THE report of the Gas Light and Coke Company possesses an interest for even a wider class of readers than the owners of gas works or the consumers of gas. It throws much light on both the general depression of business, and the steady increase of the pressure of taxes than on urban residents. A steady increase has taken place in the sale of gas, which, with some other items show an improved receipt for the half-year of 41,783*l.* Against this, however, has to be taken into account a decrease of 51,000*l.* in the receipts for residual products, or about one-seventh of the selling value. This the directors attribute to the depression of trade. On the other hand, there has been a reduction of 12,500*l.* in payments for coal, forming part of a general economy of 27,753*l.* in the expenditure for the half-year. During the year the company had paid rates and taxes to the amount of 123,000*l.*, which as nearly as possible comes to 4 per cent. on their gross revenue of 3,095,000*l.* The other features of the report are satisfactcry, and the Company reports the annual feature of a reduction in their capital account. The good results of the virtual partnership which is established by means of the sliding scale between the company and their customers are most conspicuous in the accounts of this great company, of which the capital amounts to nearly four-fifths of that of all the metropolitan gas companies taken together.

IN strong contrast to the general reduction in net earnings, and increase both in capital and its working expenditure, of the railway companies of the United Kingdom for 1885, is the 10 per cent. dividend, with a 1*l.* 5s. bonus, amounting in all to 12½ per cent. per annum, of the London General Omnibus Company. The net profit thus declared amounts to 38,305*l.*, while a balance of 7,440*l.* is carried over to the next account. The omnibus company shares with the companies that carry on ocean navigation the great advantage of having no capital invested in roadway or works. Thus, while their working costs amount to between 94 and 95 per cent. of their receipts, the remaining 5 per cent. is enough to pay this handsome dividend on the small amount of capital that is invested in vehicles and horse stock. Next to road vehicles in net earning powers come tramways; while the cost of the road is kept so low that with a working cost co-efficient of 80 per cent., from 5 to 6 per cent. dividend is earned. On lines like the Metropolitan Railway, where the working expenses are reduced to some 35 per cent. of revenue, the cost of capital is such as to reduce the net dividend below that of either the tramway or the road vehicles. What will ultimately be the consequences of the steady increase of capital, now amounting to more than 42,000*l.* per mile for the whole of the United Kingdom, accompanied by the steady growth in the proportion of working cost to revenue on our railways, it is more instructive than agreeable to contemplate.

DR. SEPTIMUS GIBBON, the Medical Officer of Health to the Holborn District Board, calls attention in his Annual Report, which has just been issued, to what he calls "the intimate relation which exists between the existence of rookeries and slums . . . . and the injurious, immoral, and obstructive buying and selling in the public thoroughfares of the metropolis," and gives it as his opinion that the character of these places would be greatly improved if Parliament were to set some limit to street trading, the worst of the tenement houses in the Holborn district being occupied by costermongers and persons of a like description. Dr. Gibbon thinks that little permanent good can be effected unless measures are taken to reform the inhabitants of rookeries, and this, he believes, can only be done by legislation. It is difficult to perceive the connexion between street trading and unsanitary dwellings, or how street trading can be suppressed without the provision of some substitute for the present system. There can be no doubt that the practice of selling from barrows placed in the public thoroughfares is rough, untidy, and perhaps demoralising, but the remedy would be the establishment of markets, and this is within the power of the Sanitary Authority. Dr. Gibbon's suggestion that, if the people are improved the houses will improve, is a very topsy-turvy idea, and is worthy of the author of the "Bab Ballads." The District Board appear, however, to act upon this principle. The only houses within the district to which the Artisans and Labourers' Dwellings Act, 1868, has been applied during the past year were four houses in Fleur-de-lis-court, and to those acquainted with the miserable tenements in the rear of the houses in Gray's Inn-road, this fact will speak conclusively.

THE discovery has just been made at Tanagra of a tomb decorated with encaustic paintings. Unhappily, before the proper authorities could be on the spot the tomb had been secretly rifled and the painted slabs dragged from their original position. As they could not be observed *in situ* they were at once removed by the Inspector of the Tanagra Antiquities to Skirmatari, where they are housed in safety. Here they were seen by Dr. Fabricius, who gives a full account in the "Mittheilungen des Deutshen Archäologischen Instituts," x. 2. It will be remembered that Dicæarchus, in his invaluable account of Tanagra, notes (Fragm. Hist. Græc., ii. 257), that the city was famous for its encaustic votive offerings (ἡ πόλις . . . καὶ ἐγκαύμασιν ἀναθηματικοῖς κάλλιστα κατεσκευασμένη) so that these encaustic tomb decorations acquire a special interest. Of the four slabs the two narrow end ones are decorated as follows:—The slab broken in four pieces is painted with the head and shoulders of a horse seen in profile, the style is lively and naturalistic, the colours employed chiefly red and black. To the right of the horse are painted a sword, scabbard, and belt, evidently the arms of the buried warrior. On the second narrow slab is painted, in not very distinct outline, a loom, with much less detail than the loom of Penelope on the Chiusi skyphos, but still quite unmistakable. These two end slabs of the tomb tell an evident tale. The horse and armour are the symbols of the buried warrior, the loom the fitting emblem of his thrifty wife. The tomb probably belongs to the third century B.C. A description of the designs of the side slabs we reserve till the paintings are published, as their meaning is less clear.

FROM the Ἑστία (No. 495) we learn that excavations are being carried on by an Italian of the name of Albert. All objects discovered are to be placed in the Museum of the Herakleion, which already contains important remains of archaic Cretan art. Archæologists now-a-days incline to attach much importance to this early Cretan art. Tradition connected the names of Dædalus and his pupils, Dipoenus and Scyllis, with the island, and it may be that Crete will eventually furnish us with specimens of archaic sculpture, which may rightly be regarded as the ancestors of the earliest Peloponnesian statues that remain to us. It is very desirable that Cretan remains should be collected into one museum; at present what little we possess is scattered far and wide. A fine bit of archaic bronze work representing the meeting of two hunters, one of which carries the wild creatures he has shot on his shoulders, is now in the Louvre, in the room devoted to recent acquisitions.

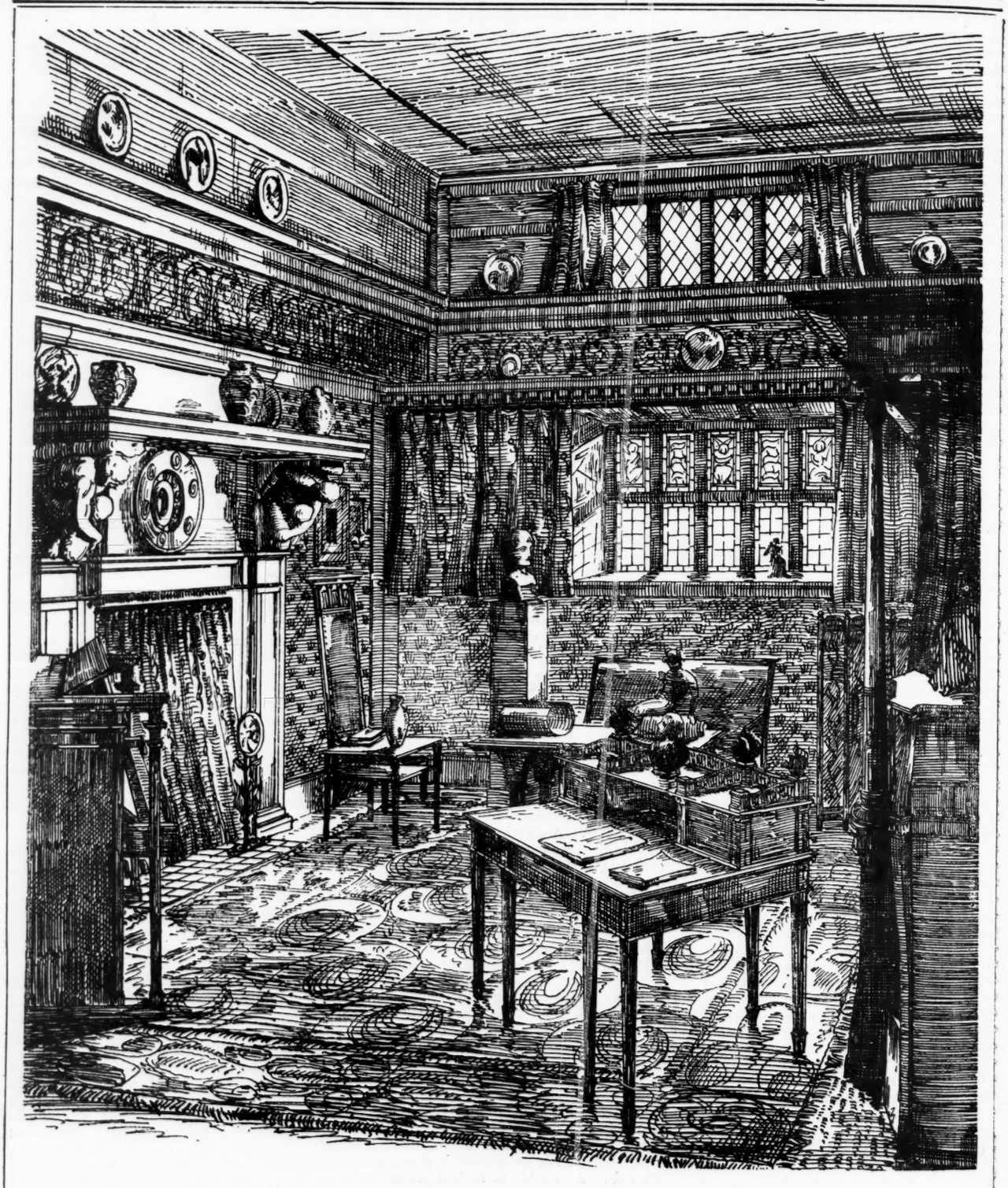
A CURIOUS and most unusual appeal case was tried in the Law Courts before the Lord Chancellor, which is worth recording, though in all probability such a one never occurred before, and never will again. A certain Mr. Ainslie owned extensive plantations on his estates in Cumberland, which, in the severe storms of 1883–4, suffered terrible damage, some twenty thousand larches having been blown down, to the value of 3,500*l.* While Mr. Ainslie, who was a very old man, was considering what should be done with all this wreck, he was felled, in his turn, by Father Time, and he slept with his ancestors before he had been able to give any orders as to clearing away the timber. Of course, this was a promising subject for a dispute between the executors and the owners of the real estate, both of whom considered themselves entitled to it. The case was argued before Mr. Justice Pearson, who gave it in favour of the former, on the ground that the trees which were blown down could no longer grow as trees should, and that they therefore did not belong to the estate,—in fact, that they became personalty. On the appeal, one day last week, this decision was reversed pretty unanimously, on the broad proposition that, as long as the trees were attached to the ground by ever so slender a fibre, they were realty, but, once severed, they were personalty. If a tree, said the Lord Chancellor, with its roots, was severed, even though some of the broken fibres were covered with earth, it would then belong to the executors; but if any attachment to the ground remained, it would belong to the estate. A tree might be fixed and yet as unlike a growing tree as possible, while, also, a dead tree might be, and often is, perfectly fixed. Mr. Justice Lindley, perhaps, put it in the best logic, by remarking that the storm was an accident, but for which the executors would have had nothing to do with the trees; and supposing they had been subject to some great blast or blight, the executors would still have been in the same position. On the face of it, it certainly seems as if the executors were rather sharp practitioners, and, as they lost on the appeal, they would have been better advised if they had left the real estate owners in possession of their wreckage.

SINCE the burning of Aberystwith College, there has been some proposition made of erecting an entirely new building on another site, but the idea does not seem to have received much support among those specially interested, and we hope it will not be carried out. The present building can be restored for 25,000*l.* according to Mr. Seddon's estimate, and was insured for 10,000*l.*, leaving only 15,000*l.*, to make up. According to the report of a meeting on the subject a few days ago, there is a widespread feeling in favour of restoring the college, and we hope this will prevail, and that Wales will retain in its essentials a building which must be considered to be one of the most original and characteristic monuments of the Gothic revival.

MR. A. BRUCE JOY has been commissioned to execute a memorial, in the form of a recumbent figure, to Bishop Berkely, to be placed in Cloyne Cathedral. The work is being subscribed for in England as well as in Ireland, as befits the wide fame of the "immaterial" bishop.

WE have received during the last week specimen numbers of two provincial architectural sketch-books; "The Draughtsman's Sketch-book," which dates from Liverpool, and is published in monthly numbers; and the Sketch-book of the Glasgow Architectural Association, Part I., for Session 1885-6. The style of drawing in the Liverpool book contains some sketches in a free and artistic style ("Porch, Wigmore Church," "Ironwork from Durham"), and some (as "La Boucherie, Antwerp," and "Doorway, West Kirby") which are very feeble in style and deficient in feeling and "touch." The variety in the Glasgow book is greater, in regard to subject; the merits of the drawings also vary greatly, but there is a proportion of good work. The most effective page, as a drawing, is Mr. M'Gibbon's "Glasgow Old College"; the same contributor's perspective of Glasgow Cathedral, and his measured drawings of Glasgow Athenæum, may be mentioned, and Mr. Shanks's measured drawings of the Old College, with its curiously varied ornamental window heads. If these books are fair samples, however, it would seem that architectural sketching in the provinces is still far behind the standard of such a body as the London Architectural Association.

Refuse Destructor.—We understand that the "Bee-hive" refuse destructor, the invention of Mr. Stafford, the borough engineer of Burnley, has been adopted by the municipality of Bombay.



View of Music-Room, designed by Artists of "The Century Guild."

INVENTIONS EXHIBITION.

FURNITURE BY "THE CENTURY GUILD."

In one of the rooms in the Old London Street in the Inventions Exhibition may be seen a "music-room" (of which we give a sketch above), the result of the united labours of the members of a society which calls itself "The Century Guild." The objects of this Guild are to invest the ordinary accessories of a furnished house with distinct artistic merit and originality. It is a society of artists primarily, and a trading concern secondarily, which is an inversion of the ordinary trading method. This Century Guild, therefore, will be watched by not a few with interest as an experiment, for it has not been constituted sufficiently long to enable one to judge of the measure of success that awaits it.

The main advantage of such a society, where the artist is brought into direct contact with the purchaser, is in the freedom which it gives to the artist. A painter will tell you that when he works to order he never works as well as when his work is but the expression of his own thoughts. A painter should have his own message to deliver, and not have one found for him, which he has to make concrete. We know what poets do when they write for occasions. Our own Laureate is hardly an exception to the rule when he writes wedding greetings. And in the ordinary course of business a man who works for manufacturers has not so much himself as the manufacturer to please. The manufacturer has certain predilections, or, as Herbert Spencer would say, a bias; and the designer must try to do two things, carry out his own ideas under the limitations imposed upon him by the manufacturer; and as a rule manufacturers are certainly not in advance of public opinion. In many instances we could name, the man who sits in judgment on new designs or new goods is a man who is suppossd to know what the public wants and likes. The buyer in a large firm is supposed to represent the public. In the case of goods already manufactured these buyers purchase those things that will find a ready sale. They really purchase the things they think the public will buy, and it is astonishing how wedded to custom and precedent these buyers are. They have generally no special training for the duties they undertake, and yet so powerful are they that manufacturers have to defer to their opinions. The consequence is that the designer is virtually judged by the buyers of the large houses, for the manufacturer has to study these buyers, and the designer has to do the same, and the consequence is that originality and individuality are looked at to a great extent as evils, unless a tight rein be kept over them. There are buyers and buyers doubtless, but too many of them are ignorant and unfitted in

every way to represent the public. It is quite amusing sometimes to hear them passing judgment on some new thing, giving it forth with all the seriousness of a weighty truth that such and such a thing will *not* sell, and the public is consequently prevented from exercising its own judgment in the matter through the narrowness or stupidity of a buyer.

The restrictions placed upon a designer are often so stringent that any man with strong individuality feels himself so confined that he is conscious he cannot do his best for the want of a free hand. In the majority of cases a designer is asked to work in this or that way; to follow this or that school; and not to show what is in him,—what he could do if left to himself. And one of the most hopeful signs of this Century Guild is that the designer comes directly in contact with the public. The designer works out the idea that is within him, subject, of course, to practical considerations, and the public is his only judge.

Now, the public is more ready and willing to appreciate the best than is sometimes supposed. The public is not as stupid as those who ought to know it seem to imagine. And, furthermore, originality and individuality are appreciated by the public at their true value, which is more than can be said of those who, by their position and training, one would think ought to value these two qualities highly. Manufacturers are still apt to prefer the conventionalities of a "school" to the freedom and distinction of originality and individuality; to prefer a designer, we will say, designing Louis V. furniture to designing furniture after his own heart; and as long as this principle dominates our crafts so long will they be lacking freshness, meaning, and oneness.

We have preferred to dwell upon the indirect results that may accrue from this movement for greater freedom and scope for our craftsmen, in order that our manufactured art may reflect the spirit of the age, rather than upon the work of the guild itself in detail, more especially as we are able to give a few sketches of some of the work exhibited by the Guild. The architects, Messrs. Macmurdo & Horne, have succeeded in giving us an original room, and, at the same time, a very simple one. The woodwork is painted white throughout. The lower part of the wall and the frieze above it are papered with a dark low-toned paper. The frieze, consisting of a series of figures playing on divers instruments of music, surrounded by conventional foliage, emphasises the purpose to which the room is intended to be put, which is further carried out in the curtains, the design of which consists of angels blowing trumpets, powdered over a dark ground. The painted glass in the lower windows also is suggestive of music, and is originally treated, and, considering the little light absorbed by the painting, is rich in effect. Glass for domestic purposes cannot be too delicate and unobtrusive, otherwise the feeling of repose so essential in our every-day surroundings is absent.

The cabinet work which is perfect in workmanship (it is manufactured by Messrs. Wilkinson & Son, of Old Bond-street, who act as business agents to the Guild), is well designed, every detail being carefully thought out, and the proportions well considered. The cottage piano is so designed as to be able to be placed in the room, and not with its back turned to the wall,—an obvious improvement on the ordinary piano design, and one that should be generally adopted. One of the chairs, with a painted fretwork back of very original design, pleased us. This breaking away from custom cannot fail to produce striking results in the hands of a skilful craftsman. The getting out of a groove is the first necessity towards originality.

The fireplace has a projecting shelf supported by two figures, and is a somewhat new feature. The figures themselves are well modelled, and are in every way works of art. The metal work, consisting of beaten brasswork, is excellent in workmanship, two large *repoussé*-work dishes being particularly notable. The brass is left dull, and not lacquered, and a certain "quality" is imparted to the work, which one misses in the bright staring polished yellow metal one generally sees.

The colouring of some of the textiles is rich and harmonious, and, like most of the work exhibited by the Guild, they possess a style of their own,—a fact we are glad to chronicle in these days of revived fashions. Revivals are most excellent, where the spirit is retained to the exclusion of the letter, for, after all, the best style is "individuality," and works of any kind, from a wall-paper to a picture, are interesting in proportion as they are dominated by the spirit of the worker.

Fig. 1 is reproduced from the working cartoons for the lower window in the room. White glass is used, and the tracing is delicate, little stain being introduced. The other three

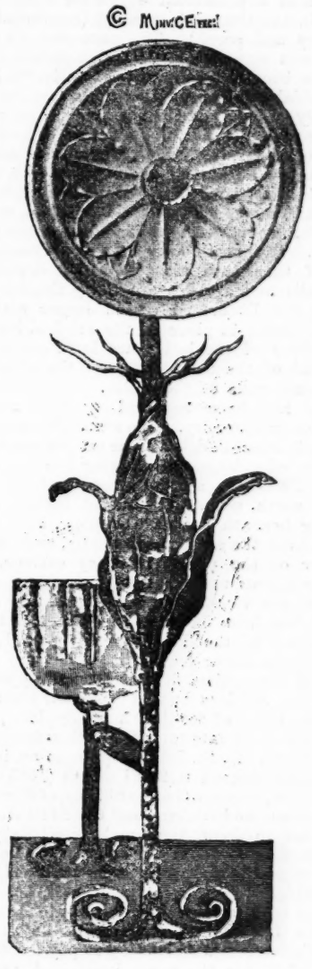


Fig. 6.

lights consist of figures playing on musical instruments.

Fig. 2 is one of a series of five painted panels for the back of a rosewood bench.

Figs. 3 and 4 are reproduced from the frieze and filling used in the Music-Room. The colour of both is neutral and dark, to throw up the light woodwork.

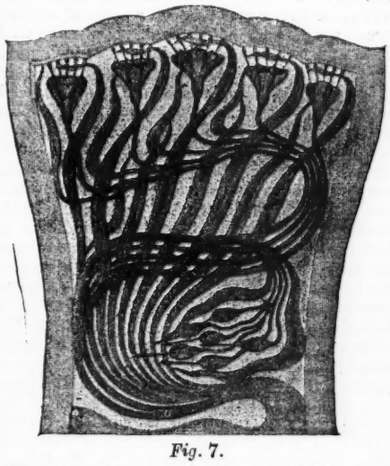


Fig. 7.

Fig. 5 is taken from a very carefully-wrought *repoussé* brass dish.

Of the two cuts in the text, Fig. 6 is taken from one of the wrought-iron dogs, the flower being *repoussé* brass; fig. 7 is the back of a chair in open fret-work; a design which may be regarded as a youthful eccentricity, but which is at least original and suggestive.

In addition to the work figured here, there is exhibited in the Music Room at the Inventions Exhibition some sculpture by Mr. Creswick and Mr. Roscoe Mullins; some needlework wrought in the School of Art Needlework; a novel carpet, designed by Mr. Macmurdo, who is responsible for the furnitnre; and some cabinet work, excellent alike in design and workmanship.

THE DERBY MEETING OF THE ROYAL ARCHÆOLOGICAL INSTITUTE.

CONCLUDING NOTICE.

We this week bring to a conclusion our special report of the Derby Archæological Congress.*

On Monday, August 3, a large number of members started in carriages from the Strand (a modern Derby street which does not appear to be a financial success, but which was the scene of unwonted animation on the carriage-days of the Institute's week, it being selected as a convenient and central point for the marshalling and freighting of the vehicles), proceeding first of all to Repton, midway between Derby and Burton, and formerly the capital of the kingdom of Mercia. The exceedingly graceful and delicate spire of the church was greatly admired as it was approached by the visitors. The church is dedicated to St. Wystan, and has several noteworthy features, especially its small chancel or sanctuary, with its peculiar crypt or undercroft. According to the Rev. Dr. Cox, whose views met with the acceptance of the other visitors, the small sanctuary or chancel just mentioned contains a great deal of undoubted Saxon work, much of which is plainly visible on the exterior. The walls were slightly raised during the Early Decorated period, when the present four-light windows were inserted. The crypt or undercroft is 17 ft. square, and was approached from the church by two curved passages, which still remain almost intact. The confessionary window at the west end also remains. Although the crypt is described in some architectural glossaries and other works as "Saxon," it is not (as Dr. Cox pointed out) entirely so. The external walls are, no doubt, of Saxon work for the most part, but the vaulted roof and its supporting columns and wall-pilasters appear to have been inserted in Norman times.† At the same period the original nave (which Mr. Irvine thinks was of wood) was rebuilt. The two eastern bays of the nave (on each side) remained until 1854, when, according to Mr. St. John Hope, they were replaced by the present ones, "*for the sake of uniformity!*" Two of the pillars of the displaced bays are now to be seen stuck up inside the porch. The old portions of the nave arcades, and some of the windows, are of the Decorated period. The tower and spire are of Early Perpendicular work, and the spire, as before remarked, is very graceful. The church was "restored and beautified" in 1792; until that time there was a good tomb, with the effigy of a knight, at the east end of the north aisle; but the tomb appears to have been demolished, though the effigy, much mutilated, is now in the crypt. The church contains a number of monuments to the Thacker family. It appears that further works of restoration are contemplated, and in reference to these Dr. Cox and other members of the party pleaded for the most conservative treatment, strongly deprecating the proposed removal of the present Decorated east window for the sake of inserting a window of earlier character,—an operation which was likely to be attended with serious consequences to the surrounding and superincumbent Saxon masonry.

The visitors next proceeded to the adjoining remains of Repton Priory, which were described by Mr. St. John Hope. Of the Decorated gatehouse only the outer arch remains. Nothing is left of the Almonry and other buildings of the outer court, and of the main buildings the Cellarium is the only part standing, though it has been much altered. The Priory was granted at the Suppression in 1538 to one Thacker, who, according to Fuller, "pulled the church down on a single Sunday" on hearing of the news of Queen Mary's accession,—no doubt (if the story

* See pp. 147, 182, *ante*.

† Dr. Cox, among other observations with reference to this part of the church, remarked that it was thought that in Saxon days there was "a double chancel" to the church, in connexion with which he referred to the arrangement described in Mr. Butler's work on the Coptic Churches of Egypt, in which it was usual to have one chapel over another.

be true) inspirited by the thought that "the better the day the better the deed." The Cellarium was purchased of Thacker by Sir John Porte, and appropriated to the use of the grammar school he founded here in 1556. Some of the pillars of the undercroft or lower story of the cellarium still remain. In 1866 some of the boys of the school were levelling a field to the north of the Priory when they came upon an ancient tile-kiln filled with tiles which had never been drawn after firing. This shows that probably most of the tiles found at Repton were made on the spot, though they are very similar to those found at Dale Abbey, and, perhaps, many of them were made from the same moulds.* The kiln and its contents still remain, though not properly secured against damage or plunder. On one of the walls of the cellarium (now used as the big schoolroom) are cemented for preservation some very interesting specimens of the tiles found here,—notably one very good set of (if we remember aright) sixteen, each of which contains part of the complete design which is spread over the whole series. The site of the Priory Church (which is stated by Mr. St. John Hope to have been purely conventual), has of late years been excavated with very good results. The greater part of the work appears to have been of the Decorated period. The church was about 200 ft. long. But for the lithographed plan of the Priory, which was inserted in Mr. St. John Hope's "Notes," the visitors would not readily have comprehended the "bearings" of the structure, although most of the remains are uncovered; for, in striking contrast with the remains of the massive piers of the crossing of the church, a steam-driven edge-runner mortar-mill is planted right in the middle of the choir, while other building appliances and piles of material are spread over the site of the church, part of which, indeed (viz., the south side of the nave) is being covered by the new grammar-school buildings, now in course of erection from the plans and under the superintendence of Mr. A. W. Blomfield, M.A. In reply to questions put by some of the visitors, it was stated that all existing remains of the priory church will be retained *in situ*,—the bases of the piers of the south arcade of the nave being retained under the floor of the school, and their precise position permanently marked on the surface of the floor above. A great number of stones, consisting of arch-moulds, rib-voussoirs, bosses, caps, bases, and other details, have been roughly built up for preservation in a wall opposite the new school building, but they form a curious *olla podrida*, no intelligent supervision having been given to their arrangement, as may be inferred when it is stated that most of the stones are placed in impossible juxtaposition with each other, and many of them upside down. Their higgledy-piggledy collocation is probably only intended to be temporary.

Thanks having been given to the vicar of Repton and to the head-master of the Grammar School for the facilities which they had afforded to the excursionists,

The carriages were resumed, and a pleasant drive of about eight miles, through Melbourne, brought the visitors to Breedon Church, which is all that remains of the Priory Church of Breedon, the situation of which, on Breedon Hill, is very striking, Breedon Hill itself is an outlier of carboniferous limestone, rising boldly above the surrounding Keuper sandstone. So prominent a landmark may well have been chosen as a stronghold, and on ascending the path to the summit it is apparent that the top has been encircled by an earthen rampart with an outer ditch, these works being locally known as "The Bulwarks." The south-eastern part has been removed by the quarrying operations, but the greater part of the remainder of the circuit can be traced. It was stated by Mr. Hope that no systematic plan or examination of this extensive earthwork has yet been made. Almost in the centre of the plateau which forms the top of the earthwork is all that survives of the Priory Church of St. Mary and St. Hardulf, which was described by Mr. St. John Hope. The church was given about 1144 by Robert de Ferrers to the Augustinian Priory of St. Nostell, Yorkshire, and a prior and five canons were thereupon established here. The church, which was parochial and conventual, was purchased of the king at the suppression of the Priory by Francis Shirley of Staunton Harold, and given by him to the parish, so that the whole building thus became parochial. Only a portion of the church bought by Francis Shirley now remains. It consists of a choir and aisles of four bays, the once central tower (which from its massiveness and elevated position is a prominent object for many miles around), and the south transept (converted into a vestry and porch). The nave and its aisle have been demolished. There appears never to have been a north transept. Mr. St. John Hope thinks that the abode of the canons was probably a house on the north side, and not a cloister with a circuit of buildings. The choir-piers are curiously variable in plan, the central pillar being hexagonal and the one on each side of it quatrefoil, while the responds are again different. The capitals are plain, except that of the north-east respond, which has good foliage. The north aisle retains its vault, but that of the south aisle has been destroyed. The walls and arcades are Early English, but during the Decorated period larger windows were inserted in place of the original lancets. Only three of the latter are left: one at the west end of the north aisle, and the other two in the east ends of the aisles. The great east window has been replaced by the present Georgian monstrosity. The south aisle windows are Early Decorated, but those on the north side are somewhat later, with flowing tracery, *circa* 1335. There are some fragments of old glass in the north aisle. A band of incised work running beneath the east window, and some pieces over the arcades internally, and on the exterior of the porch, are very curious, and deserve attention, the carving being very good. Some of the visitors were of opinion that these details date from the Saxon period. The tower was raised in the Perpendicular period; externally the lower part of it is Norman. The whole of the ancient fittings have disappeared. When the Shirleys bought the choir the north aisle was railed off for their burying-place; here are some good late tombs. With reference to one of these, Mr. St. John Hope read an indenture dated August 9, 27 Elizabeth (1585), but unexecuted, between George Shirley, of Staunton Harold, esq., and Richard and Gabrielle Rogley, of Burton-on-Trent, tomb-makers, whereby the Rogleys were to undertake to make, and set up at Breedon, an alabaster tomb, with effigy of John Shirley, with heraldic devices, &c. The carriage of the tomb from Burton to Breedon, and the foundations thereof, to be at Mr. Shirley's cost, he undertaking to pay the tomb-makers 22*l.* for the tomb itself. A notable feature of the church is the Ferrers pew, a large canopied structure erected by Sir Henry Shirley, and bearing the date 1627.

On leaving Breedon Church the visitors resumed their carriages, and drove to Melbourne Church, which was inspected under the direction of the Rev. J. R. Boyle. This church is one of the finest and most interesting of the whole series of churches visited by the Institute. Dedicated to St. Michael, it is a cruciform structure, consisting of a chancel, central tower, north and south transepts, nave with aisles, and western portico flanked by two small towers. With the exception of the upper part of the tower and the eastern half of the chancel, the whole church is, in the main, of Norman work, *circa* 1120. The nave is separated from each aisle by five stilted Norman arches, 20 ft. high, resting on circular pillars 4 ft. in diameter, on square bases. Both transepts and the chancel once had eastern apses. The Perpendicular rood-screen remains. There is evidence to show that over the groining of the chancel apse was an upper chamber, which it is conjectured may have been the separate chapel of a religious community, who may have had access to it through a doorway (still apparent) at the eastern end of the south wall of the south aisle, by the stairs in the south transept, and by the arcaded passages or triforia in the transept, and in the south and east sides of the central tower. The upper part of this central tower is of post-Norman work, but of uncertain date. The church was restored by Sir Gilbert Scott in 1862, at which time the small western towers received their present slated pyramidal roofs, which were adversely criticised by some of the visitors to the church last week. There is a fine Norman doorway at the west end of the church.

From the church the visitors adjourned to Melbourne Hall, formerly the seat of Lord Melbourne, who was Prime Minister of England at the time of Queen Victoria's accession to the throne, and additionally noteworthy as the place where Baxter wrote his "Saints' Rest." The northern wall of the hall is stated to be of the date 1629. The eastern front (that towards the trimly-kept and pleasant gardens) was built by Mr. Vice-Chamberlain Coke about the year 1722, from a design (it is supposed by Mr. W. D. Fane, the present tenant) of Gibbs, who was engaged about the same time in rebuilding the body of the Church of All Saints, Derby. Having inspected the grounds and some of the contents of the hall, the visitors, after partaking of tea and other light refreshments kindly provided by Mr. Fane, left for Derby, a pleasant drive of eight miles, crossing the Trent by Swarkeston Bridge, which is nearly three-quarters of a mile long. Only 138 yards of its length, however, actually cross the river, the remainder of the bridge (which is for the most part of stone) being necessitated by the oft-times flooded state of the adjoining meadows in winter. Much of the bridge is of early date, but the portion over the river has been rebuilt in modern times. There is record of the existence of a bridge-chapel here in 1552. The southern end of Swarkeston * Bridge is said to mark the point reached by the advanced guard of Prince Charles Edward Stuart's army in 1754.

In the Free Library, in the evening, there was a meeting of the Historical Section, presided over by Mr. R. P. Pullan, and an interesting paper was read by Mr. Theodore Bent on "The Survival of Mythology in the Greek Islands." This was followed by a meeting of the Antiquarian Section, presided over by the Rev. Dr. Cox. The Baron de Cosson read a paper on English Monumental Effigies, of which we gave a *résumé* in our last number (p. 203).

On Tuesday, August 4, a large number of the members and their friends left the Midland Station at Derby at 8.30, and proceeded per special train to Chapel-en-le-Frith, where carriages were in waiting. A drive of about six miles, nearly all up hill, brought the excursionists to the head of Hope Dale. The first five miles is through a wild and rugged district, but on turning the corner beneath the hill called Mam Tor, the beauty of the valley suddenly bursts into view. A pleasant and invigorating walk through the picturesque pass known as "The Winnats" (stated to be an abbreviation of "Wind-gates") brought the party to the little town of Castleton. Thence the somewhat precipitous ascent to Peak Castle was made. Of this stronghold little besides the keep remains, and this is far from perfect, much of the ashlar-work, which is of a fine-grained grit, having been ruthlessly stripped off for the purpose of repairing the church in the valley below. The keep is notable not so much for its size and extent as for its remarkably strong position, three of its sides being practically inaccessible for offensive purposes, and the fourth almost so. The main features of the existing remains were pointed out by Mr. St. John Hope, who observed that this stronghold was not (as was too commonly supposed) the scene of the story told by Sir Walter Scott in his novel "Peveril of the Peak"; the building indicated in that story was undoubtedly Haddon Hall. There are some traces of herring-bone masonry in the basement, and also in the west side of what remains of the curtain wall. The garde-robe exists in tolerably perfect condition. The keep is rectangular, and is nearly 60 ft. high, in three stories. It measures about 21 ft. 3 in. by 19 ft. 2 in. internally. There is a record of the site in Domesday, and in 1068 the Honour of Peverel, with other large possessions, were given by the Conqueror to William Peverel. In the second year of Henry II. the castle was in the possession of the Crown.

After luncheon at the Bull's Head Inn, Castleton, the visitors again took to the carriages, and were driven to Tideswell Church, where they were very kindly received by the vicar, the Rev. Canon Andrew. The church is dedicated to St. John the Baptist, and consists of an unusually large chancel, north and south transepts, a nave with aisles and south porch, and a western tower. All the church, except the tower, is of good Decorated work, but of different dates, and the interior, as a whole, is very effective. The church is, in fact, as Canon Andrew pointed out, one of the most perfect parish churches extant in Derbyshire, or in any

* In reference to the tiles and other fragments (including the effigy) at Dale Abbey, the hut-museum in which they are preserved on the spot was by a misprint in our last (p. 185, col. 1) described as the "Art Museum."

* Locally pronounced "Swors'n."

other county, and is remarkable for the fact that no enlargement or curtailment of it has taken place since it was built. It is asserted that not a single window has lost the original form of its tracery, and that most of the windows still retain their original mullions and tracery, though somewhat damaged in places. The woodwork of the church has, in the lapse of time, suffered most. The roof of the chancel is new, and the roofs of the nave and transepts, except the tie-beams, principal rafters, and constructive timbers forming the principals, have been lately renewed, in well-seasoned English oak, of somewhat larger scantlings than were found on the building, and the lead renewed. The old chancel-screen of oak, till lately in a dilapidated condition, and mutilated at the top, has been restored, after investigation as to its original form. The restoration of the great west window of the tower has just been accomplished. The chancel-windows are square-headed. In the centre of the chancel is a large altar-tomb, the covering slab of which has an inscription to Sir Sampson Meverell (*ob.* 1462). Against the north wall is the brass of Robert Pursglove, Suffragan Bishop of Hull, who was a native of Tideswell, and founded the Grammar School there in 1579. In the south aisle is a brass to Robert Lytton and Isabella his wife, of date 1483. The tower is Perpendicular, with pinnacles of singular design, the effect of which is to give the upper part of the tower (when seen from a distance and from certain points) the appearance of being cloven or split at the top. Canon Andrew observed with reference to this point that he had lately had some correspondence with the Society for the Protection of Ancient Buildings, and had been able to assure them that although the tracery was in so dangerous a condition as to require, in great part, absolute renewal, yet that it had been found possible to preserve portions of the upper tracery, and almost the whole of the remarkable transom of the window, and to replace them, thus affording proof of the accuracy of the restoration. With regard to the chancel, Canon Andrew stated that by a mistake between the builder and the architect, when the chancel was restored, its new roof was somewhat altered in pitch. The most really useful document for the elucidation of the church was a copy of the Charter of Richard II., dated 1392, refounding the Guild of St. Mary, formerly existing in the church. Mr. Gilbert Scott, son of the late Sir Gilbert Scott, in his "Essay on the History of English Church Architecture" (published in 1881), also made reference to the church, some of the statements therein made being, according to Canon Andrew, erroneous. For instance, the reredos described by Mr. Scott as having two doorways, never possessed more than one, and neither of the two niches in the reredos is above the doorway. Further, the statement made by Mr. Scott that Bishop Pursglove died vicar of the parish in 1579 requires proof; no record of his holding the living is to be found in the Lichfield Registers. The statements that Bishop Pursglove did not wear the vestments in which he is represented upon his tomb in the chancel, "when first raised to the episcopacy by Edward VI." was a mere assertion, based on a glaring mistake, for it was in 1538, in Henry VIII.'s reign, that Pursglove was made a bishop. In conclusion, Canon Andrew invited the attention of his visitors to a string of twenty-one questions which he had drawn up with regard to moot points in connexion with the ecclesiastical and architectural history of his church. It may be added that the south transept contains a (restored) high tomb, with the figures of Sir Thurstan de Bower and his lady. Upon these effigies the Baron de Cosson offered some remarks, observing that they were very good though much mutilated examples. It was stated that the architect for the restoration of the chancel was Mr. J. D. Sedding.

The visitors having partaken of tea in the dining-hall of the Grammar School, by the kindness of the head-master (the Rev. A. C. Fox) and his wife, drove to Miller's Dale Station, where they returned by special train to Derby.

In the evening the general concluding meeting was held at the Free Library, when congratulations were exchanged as to the success of the Congress. Mr. J. T. Micklethwaite, F.S.A., presided over this meeting, when thanks were given to the Mayor and Corporation, to the Free Library and Museum Committee, to the local committee, to the country clergymen and gentlemen who had given facilities for visits to churches and other buildings, and to the Midland Railway Company,—who, with characteristic enterprise, made very liberal arrangements in connexion with the Institute's excursions.

Wednesday, August 5th, was the last day on the programme. Proceeding by train shortly after nine o'clock to Hassop Station, the visitors took carriages at Hassop, and drove to Padley Chapel,—a two-storied building, now used partly as a cow-shed and partly as a hay-loft. This interesting specimen of a private chapel is all that remains of Padley Hall, the ancient home of the Eyres. It is believed that Padley Hall consisted of a quadrangular court, surrounded by buildings,—the chapel itself (now used as a hay-loft), with the offices beneath, forming the south side. The chapel has a very good old hammer-beam roof, with angels holding shields. Most of the windows are now mutilated or blocked up, and the whole building seems likely to become a mere heap of materials unless some of the buttresses are made good. Regret was expressed by the visitors that so interesting a fragment of Mediæval domestic architecture should be put to its present uses. The Rev. Dr. Cox gave some interesting historical particulars as to the persecution of the Eyres and Fitzherberts after the Reformation.

From Padley Chapel the visitors made their way (many of them through the woods, along Millstone Edge, and across the moorland) to the Carl's Wark, believed to be a pre-historic stronghold of great interest, and which is described in an early volume of the *Archæologia*. It is situated on a ridge of rock which (to quote Mr. St. John Hope's "Notes") rises in a singular manner out of the middle of a boggy moor, a little to the east of Hathersage, and some eight or ten miles west-south-west of Sheffield. The rock is roughly an oval in shape, precipitous on three sides, but sloping down to the moor at one end. Three sides have been scarped, and artificially strengthened by the insertion of large stones. The fourth side, that commanding the descent to the moor, is defended by a wall of masonry (built of large blocks, and believed to be Celtic), and backed by an earthen vallum. The entrance is very cleverly arranged so as to give the minimum of advantage to the attacking party. Descending and crossing a part of the moor again, the carriages were soon reached and driven to Hathersage, where luncheon was partaken of two hours late. In the meantime rain had set in. After luncheon most of the visitors visited Hathersage Church, and then proceeded to Brookfield, where Mr. and Mrs. Cammell (a name which will be well-known in connexion with armour-plates and Sheffield) entertained them to tea,—doubly welcome through the rain. Some of the more enthusiastic of the party, accompanied by Mr. Cammell, crossed some fields and went to see North Lees (or Leys) Manor-hall, an interesting Elizabethan mansion, now partially used as a farmhouse.

Subsequently (but not until Mr. T. H. Baylis, Q.C., had in their name thanked Mr. and Mrs. Cammell), the visitors drove to Hassop Station, returning to Derby by train two hours later than at first arranged, and rather the worse for rain and mud, though well pleased in general with their ten days' outing, in which, as already mentioned, they were fortunate enough to be favoured with fine weather until the concluding afternoon.

ARCHITECTURAL ASSOCIATION.

VISITS IN SURREY.

The Architectural Association made their third Saturday afternoon visit in the neighbourhood of Merstham, Surrey, the first place visited being Gatton Hall. The manor of Gatton,—the name Gate ton is supposed to have been derived from its position on a Roman military road in the Roman period,—seems to have been a place of considerable importance, numerous coins and other relics having been found. In the reign of William Rufus, Gatton was held by the Bishop of Bayeux, but he forfeited the manor through joining Robert, Duke of Normandy, in an attempt to dethrone William. In the middle of the sixteenth century the manor was vested in the Crown, and Henry VIII. granted it to his queen, Anne of Cleves, after her divorce.

The place was made a borough in the twenty-ninth year of Henry VI., and authorised to return two members to Parliament. It is supposed that this was done as a reward to the owner, John Tymperley, for services he had rendered. There is a curious old indenture in the Rolls Chapel of the date of the thirty-third year of Henry VIII., in which Sir Roger Copley, knt., who is described as "Burgess and oonly inhabitant of the burough and town of Gatton" is stated to have freely elected and chosen "its two members of Parliament." As recently as the commencement of the present century Colonel Sir Mark Wood, who was owner then, was the only elector. It is related of this gentleman that he united in his own person the functions of M.P., magistrate, churchwarden, overseer, surveyor of highways, and collector of taxes. The borough was disfranchised by the Reform Act of 1832.

After the death of Sir Mark Wood the estates were purchased by the trustees of the fifth Lord Monson, he being a minor at the time. On attaining his majority he greatly improved the house, and commenced the rebuilding of the Hall on a most magnificent scale, and collected the pictures and fine library. He died, without issue, in 1841. At his death, the Hall was built up to the level of the main cornice, and his mother, to whom the property reverted, hastily completed it with a temporary ceiling, painted to imitate the dome proposed in the original design. This Hall is modelled on the Corsini Chapel in the Church of St. Giovanni de Laterano. The Hall is square on plan, with two arches opening in two sides, and two semicircular recesses in the other two sides; these contain the stoves and some statuary. The pilasters and cornice are in white marble; the other part of the wall-space is covered with elaborate marble panels, in which a set pattern is produced by cutting the marble block and reversing those placed together, the veins thus balancing each other, the other part of the wall-space being covered with fresco painting. The floor of the hall is very elaborate work in Roman marbles; it is said to have cost 10,000*l.*, and the inlaid mosaic marble table 2,000*l.* There are two drawings hanging in the hall, a plan and section of the Corsini Chapel; they are simple geometric drawings finished in colour, and dated 1840. The drawing-room has a good mantel-piece of Sienna marble, with a mirror over it, the frame of which was carved by Grinling Gibbons. In the drawing-room the mantel-piece, mirror, and clock of bronze and dark marble, were formerly in the possession of the Emperor Napoleon. The exterior of the house is faced with the local Gatton stone, which is decaying fast.

Gatton Church was founded in the Anglo-Norman age. The dedication is unknown. It was entirely renovated in 1834 by Lord Monson. It has a nave and chancel, with recesses on the north and south, forming kinds of transepts; small tower, with a shingle spire. The general entrance is by a Tudor porch on the north side. There is a private entrance from Gatton House. The interior is fitted with elaborated carved panelling and oak stalls, procured from different parts of the Continent, the stained glass in the windows being of great merit. The wainscoting of the nave, together with the canopies and glass, were brought from the cathedral at Aürschot, in Louvain, that of the chancel from Burgundy, the communion-rails from Tongres, in Flanders. The double row of stalls in the nave belonged to a Benedictine monastery at Ghent. The screen at the west and of the church is English.

After visiting the church the party walked through the park, which is splendidly timbered, to the new buildings for the St. Anne's School at Redhill, which are situated close to the railway, and form a very striking feature as you enter the station. The central block contains the administrative department, with the dining-room in the rear, the main entrance running through to the dining-room. On the right of the entrance are placed the assistant-masters' rooms, senior boys' reading-room and head-master's private room. Beyond this, at right angles to the centre block, are placed the two school-rooms for the senior and junior boys. These rooms are divided into class-rooms by means of glazed partitions which have large doors in them, so that they can be thrown back and thus form a lecture-room for each division. The head-master's class-room is so placed that he has complete command of all the rooms. The school provides accommodation for 240

boys and 160 girls. The girls' school is placed on the left-hand side of the entrance, and the central block contains governesses' rooms to correspond with the masters' rooms. On account of the nature of the site, which slopes away on each side from the centre block, covered playgrounds have been arranged for the children under the school-rooms. The dining-room is a handsome room, with a coved roof and a large lantern-light in the centre. There is a recess opposite the main entrance, with a daïs for prize distributions, &c. In the rear of the dining-room is placed the swimming-bath and gymnasium, which communicate with the school buildings by means of covered ways. The swimming-bath is 30 ft. by 40 ft., and is formed of concrete, and finished with granolitic paving. On the first-floor, over the schools, are the dormitories. The chapel is placed on the right-hand side of the school buildings.

The whole of the buildings are faced with red and stock bricks, very little plaster being used internally in the school buildings. The architects, Messrs. Crickmay & Son, of Westminster, met the party, and showed them over the building.

SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION, SOUTH KENSINGTON.

The following is the list of successful candidates in the competition for the Whitworth Scholarships, 1885:—Clarkson, Thomas, aged 20, engineer, Manchester, value 200*l.*; Bennie, Hugh O., 20, engineer, Glasgow, 150*l.*; Unsworth, Robert H., 20, engineer, Pendleton, near Manchester, 150*l.*; Martin, Harold M., 21, engineer, Gateshead, 150*l.*; Calderwood, William T., 25, mechanical draughtsman, Glasgow, 150*l.*; Richards, John, 22, blacksmith, Cardiff, 150*l.*; Dolby, Ernest R., 23, engineer, Leeds, 150*l.*; Rorison, James, 21, engine-fitter, Paisley, 150*l.*; Moulton, Arthur J., 20, engineer apprentice, Preston, 150*l.*; McNeill, William, 22, mechanic, Birmingham, 100*l.*; Moreton, George W., 24, fitter, Crewe, 100*l.*; Mallinson, Stephen E., 24, assistant analyst, London, 100*l.*; Jenkins, Henry C., 23, engineer and millwright, London, 100*l.*; Smith, Robert, 24, engineer, Glasgow, 100*l.*; Nash, Thomas W., 21, engineer, London, 100*l.*; Burstall, Henry F. W., 19, engineer apprentice, London, 100*l.*; Stopher, Arthur J., 22, mechanical engineer, Nottingham, 100*l.*; Wells, Sidney H., 19, marine engineer apprentice, London, 100*l.*; Milnes, George, 24, fitter, Charlton, Kent, 100*l.*; Begbey, Henry, 22, engineer, Old Charlton, Kent, 100*l.*; Goodman, John, 23, engineer, Brighton, 100*l.*; Crummie, Mark H., 21, mechanical engineer, Hull, 100*l.*; Marsh, Oliver, 22, fitter and turner, Crewe, 100*l.*; Galbraith, Thomas, 23, pattern-maker, Manchester, 100*l.*; Bowles, Joseph H., 23, engine-fitter, Stratford, 100*l.*

Illustrations.

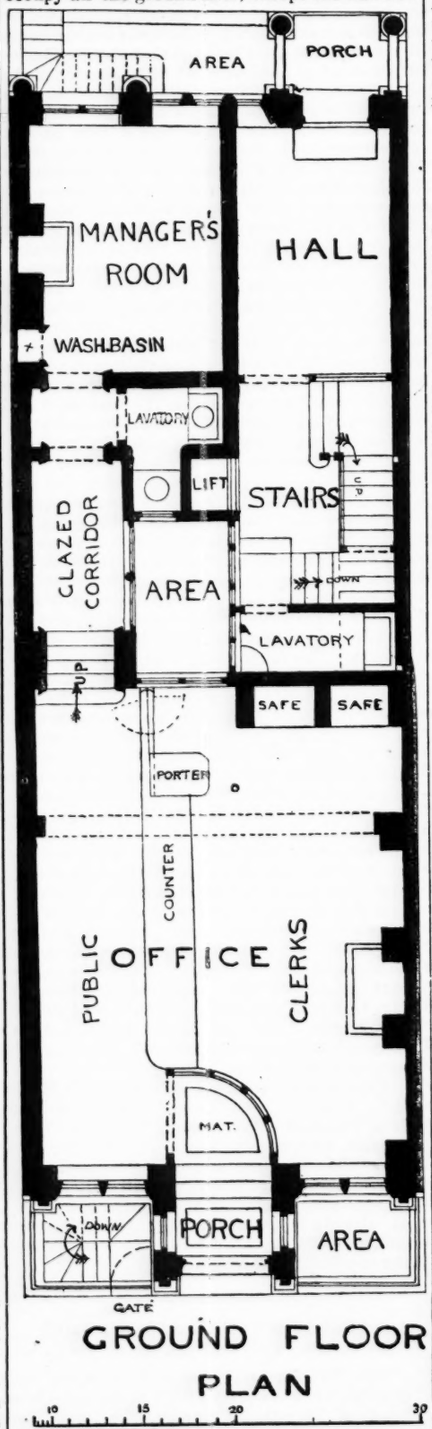
THE ROYAL EXCHANGE ASSURANCE OFFICES, 29, PALL MALL.

We give this week a view of the front of this building, lately erected in Pall-mall, from the designs of Mr. G. Aitchison, A.R.A. A plan of one floor is appended. The architect has done wisely in giving independent character to his building, for, flanked as it is by the imposing mass of the Junior Carlton Club, it might without special treatment have been mistaken for the servants' offices of the Club.

The architect has aimed at effect by well-balanced proportions, with only a moderate amount of carefully-considered ornament. The panels of glass mosaic between the trusses of the cornice form a somewhat novel and pleasing incident, the green aventurine ground contrasting well with the pale red Mansfield and the copper-coloured ornament. The Caryatides afford a pleasing contrast to much of our architectural sculpture; they are the work of Mr. Boehm, R.A. The railings and the fine grille in the porch are excellent examples of decorative work.

The interior is designed as a specimen of what may be adopted in the offices of our larger trading companies, and have we not (writes Mr. Aitchison) the Sala del Cambio, at Perugia, for an example? A harmonious but restrained tone of colouring has been aimed at, the lower part of the walls being panelled with walnut with a carved frieze, while above they are covered with green marble mosaic: a green bronze cornice enriched with gold and silver ornaments finishes the walls, and above is a cream-coloured embossed ceiling.

The building combines with the offices a separate dwelling-house, with an entrance in St. James's-square; the house occupies the whole of the upper part and basement of the building, while the Insurance Company's offices occupy all the ground-floor, except the hall and staircase to the house, as will be seen by the accompanying plan.



GROUND FLOOR PLAN

10 15 20 30

The builder was Mr. John Woodward; the stone-carving was by the late Mr. W. Plows; the ironwork by Messrs. Brawn & Co.; the glass mosaic by Messrs. Salviati & Burke; the wall mosaic by Messrs. W. Drake & Co.; the inside cabinet-work by Messrs. Mitchell & Hendry; the marble work and floor mosaic by Messrs. Burke & Co.; the canvas plaster by Messrs. G. Jackson & Son; the modeller was Mr. A. Bowcher; and the wood-carver, Mr. J. Wilson.

The illustration is engraved by Mr. J. D. Cooper from a photograph taken for the purpose.

DECORATIONS IN MUSIC ROOM, INVENTIONS EXHIBITION.

These will be found referred to in an article on Furniture, &c., by the "Century Guild" at the Inventions Exhibition, p. 216.

ST. PADARN CHURCH, LLANBERIS.

We give an interior view of this church, supplementary to the exterior view which we published in our number for February 7 last. Mr. Arthur Baker is the architect. The method which Mr. Baker has adopted for carrying the weight of the tower at the crossing with the minimum of obstruction in the shape of piers (and to which we have on a former occasion* referred) is shown by the drawing.

TOMB OF LORD DE LA WARR.

This tomb was erected to the memory of Thomas, Lord de la Warr, who died at Offington in 1526, and stands on the north side of the chancel of Broadwater Church, Sussex. All the figures in the niches were hacked away in Puritan times, but otherwise it is in a very good state of preservation. Originally the tomb was painted and gilt; later on it annually received its share of the whitewash used on the interior of the church; but when the latter was restored some years ago this whitewash was removed, and the whole tomb cleaned down. The soffit at the level of the pendants is relieved by panelled fan vaulting. The only inscription beyond the initials on the shields is the motto, "Hony soyt quy mall y pense" round the garter on the larger shield. An old tilting helmet stands on the tomb; it presumably belonged to Lord de la Warr, and is considered by antiquaries to be a very fine specimen.

F. J. Kennard.

DESIGN FOR THE "THREE CUPS" HOTEL, COLCHESTER.

This was a design submitted in a competition for rebuilding this hotel, and appears to us worth publication, though unsuccessful, as a good attempt in the way of giving an inviting and homelike character to an inn. We fear such a design is more in keeping with the old-fashioned ways and manners of innkeepers than with the modern style, but it is not the worse for that. Design and drawing are by Mr. R. A. Briggs.

REINDEER INN, BANBURY.

The fine old window and gable, of which we give a sketch and measured detail, is in the yard of the Reindeer Inn in Parson's-street, Banbury, and will be visited by the members of the A.A. excursion party on Saturday, the 15th inst. Cromwell is said to have used the room as his council chamber, and it may well have been so, for the neighbourhood was a "hot quarter" during the civil wars; the loyal little town itself stood two sieges before it came under the protection of the "man of destiny."

THORPE MANDEVILLE CHURCH.

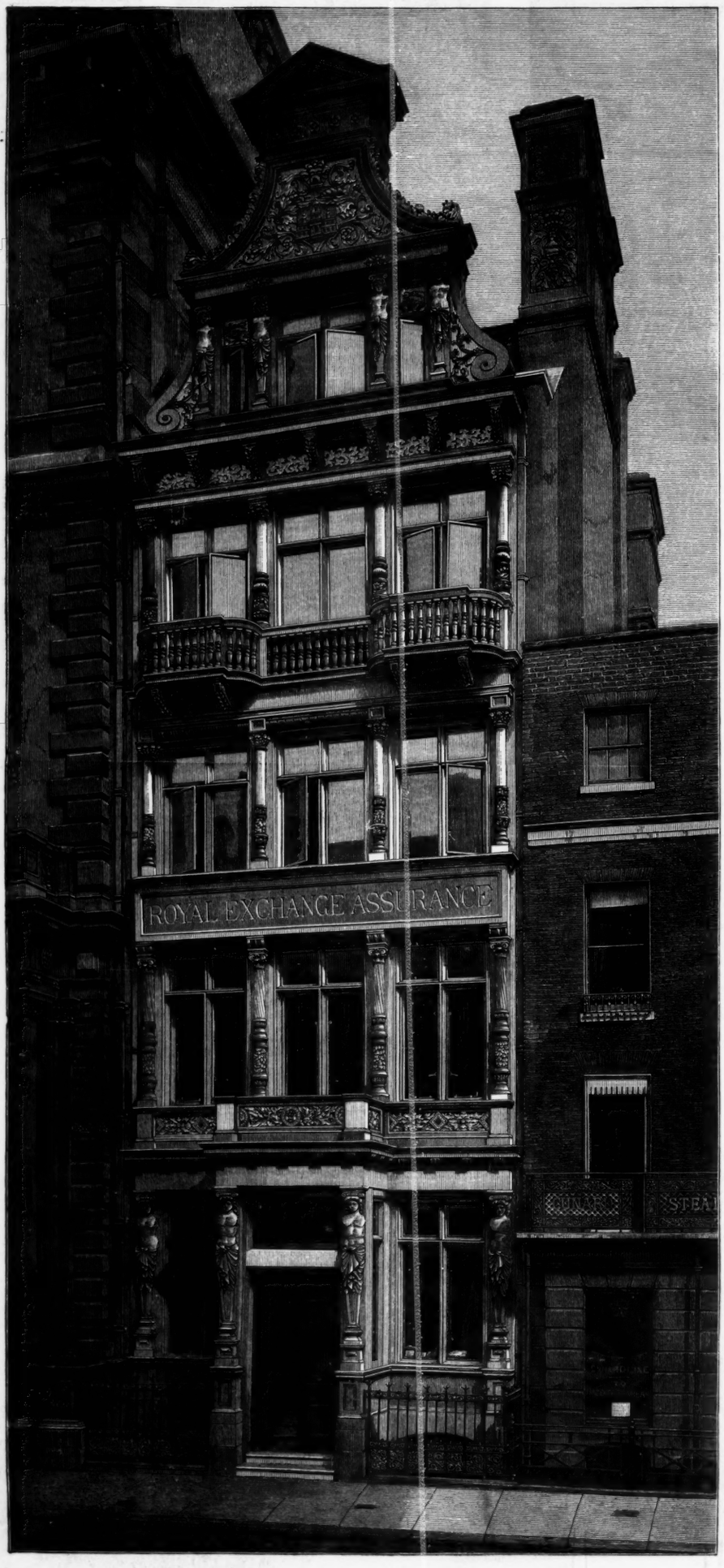
This church is on the west side of and adjoining the road from Moreton Pinkney to Middleton Cheney. The tower is almost entirely covered with ivy and creepers, but the unusual and interesting gabled top is well worth seeing. The east gable is set back from the parapet about 17 in., with a doorway in it, giving access to the gutters on the north, south, and east sides, the west gable being carried up flush with the face of the west wall.

SLOUGH PUBLIC HALL.

We publish the accepted design for this building, of which we made mention in our last (p. 181).

Cost of Mouldings.—Mr. H. Westman, of Birmingham, sends us some useful tables, in a condensed form, of values of scantlings or mouldings, per 100 ft. run, compared with the cost of timber per foot cube.

* June 13th, 1885.



ROYAL EXCHANGE ASSURANCE OFFICES, PALL MALL.

Mr. G. Aitchison, A.R.A., F.R.I.B.A., Architect.

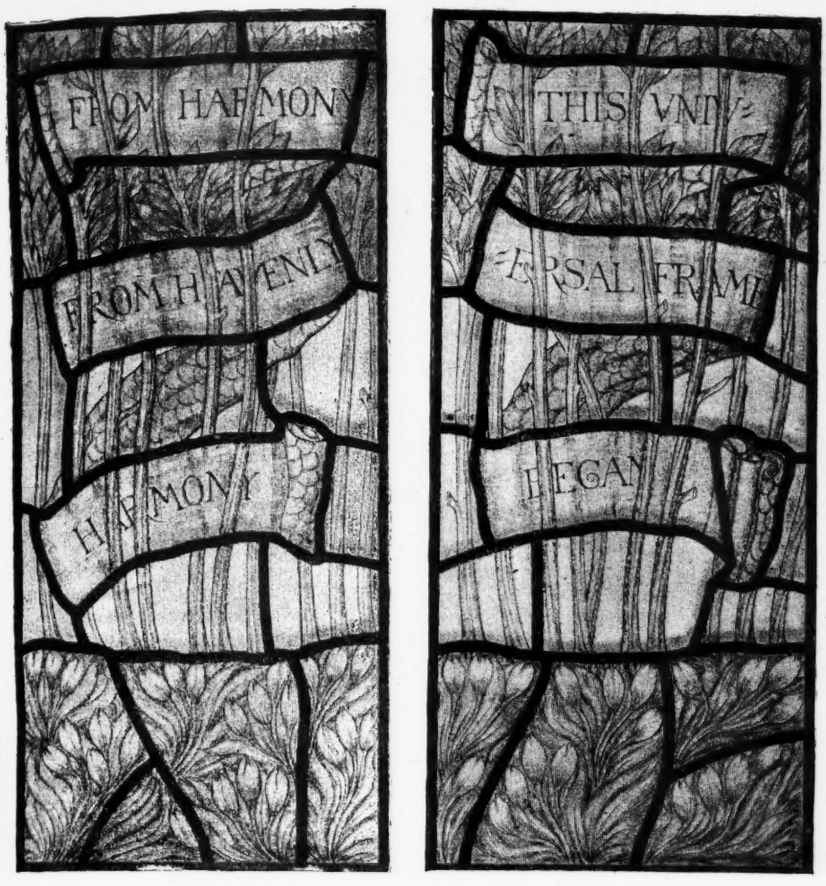


Fig. 1.

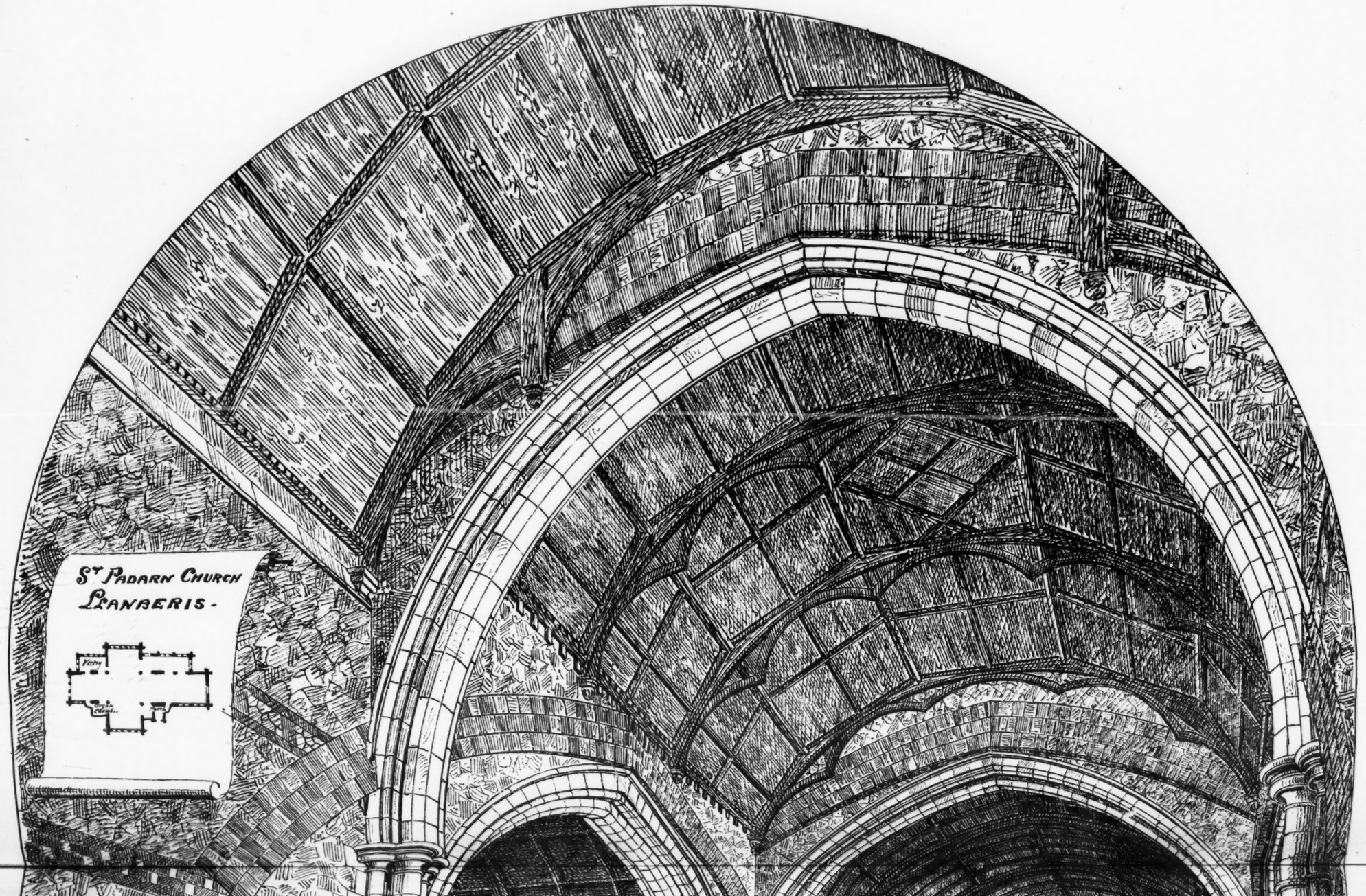
Fig. 2.

Fig. 3.

Fig. 4.

Fig 7.

DECORATIONS IN THE MUSIC-ROOM, DESIGNED BY ARTISTS OF THE "CENTURY GUILD," INVENTIONS EXHIBITION.


St Padarn Church
Llanaeris -

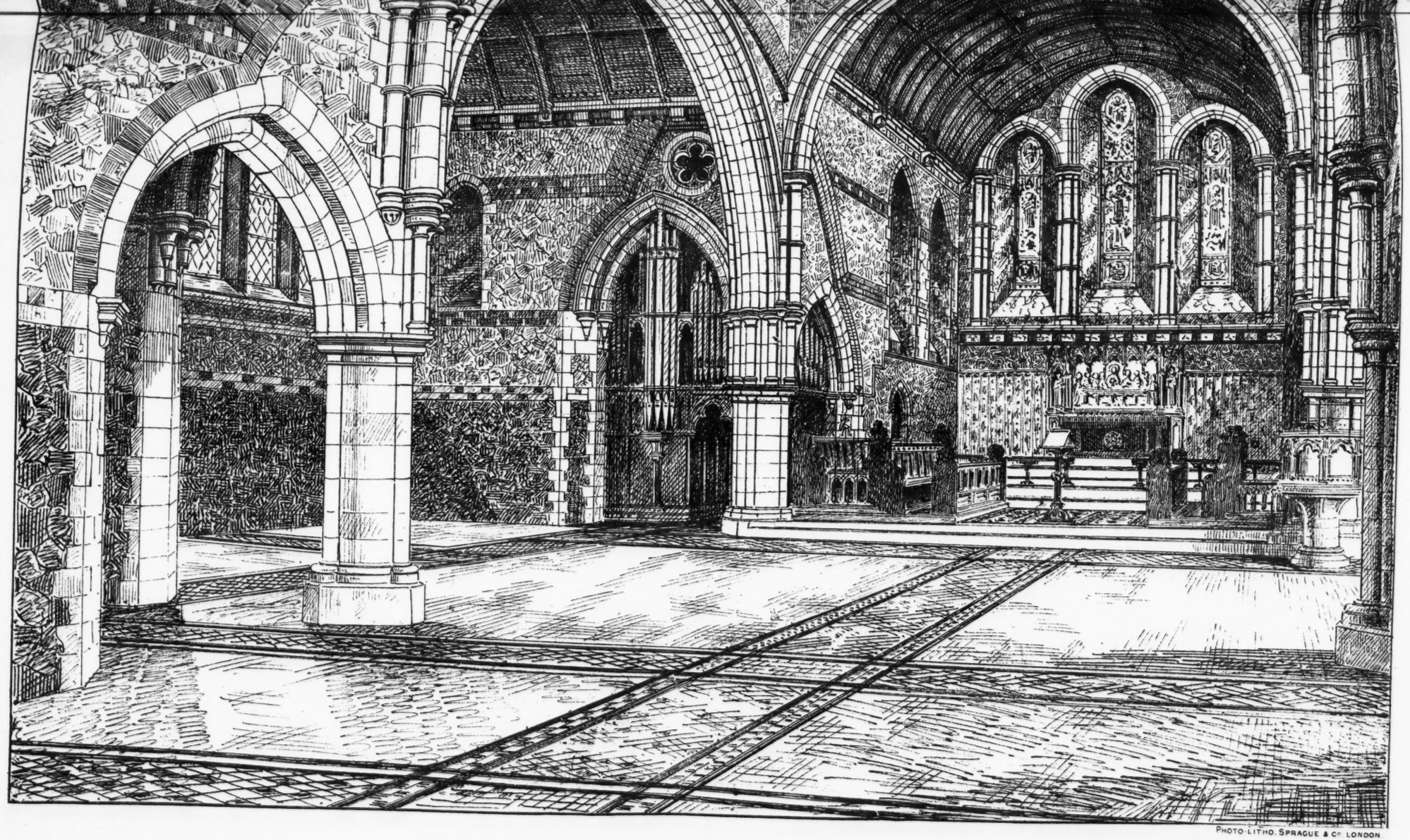
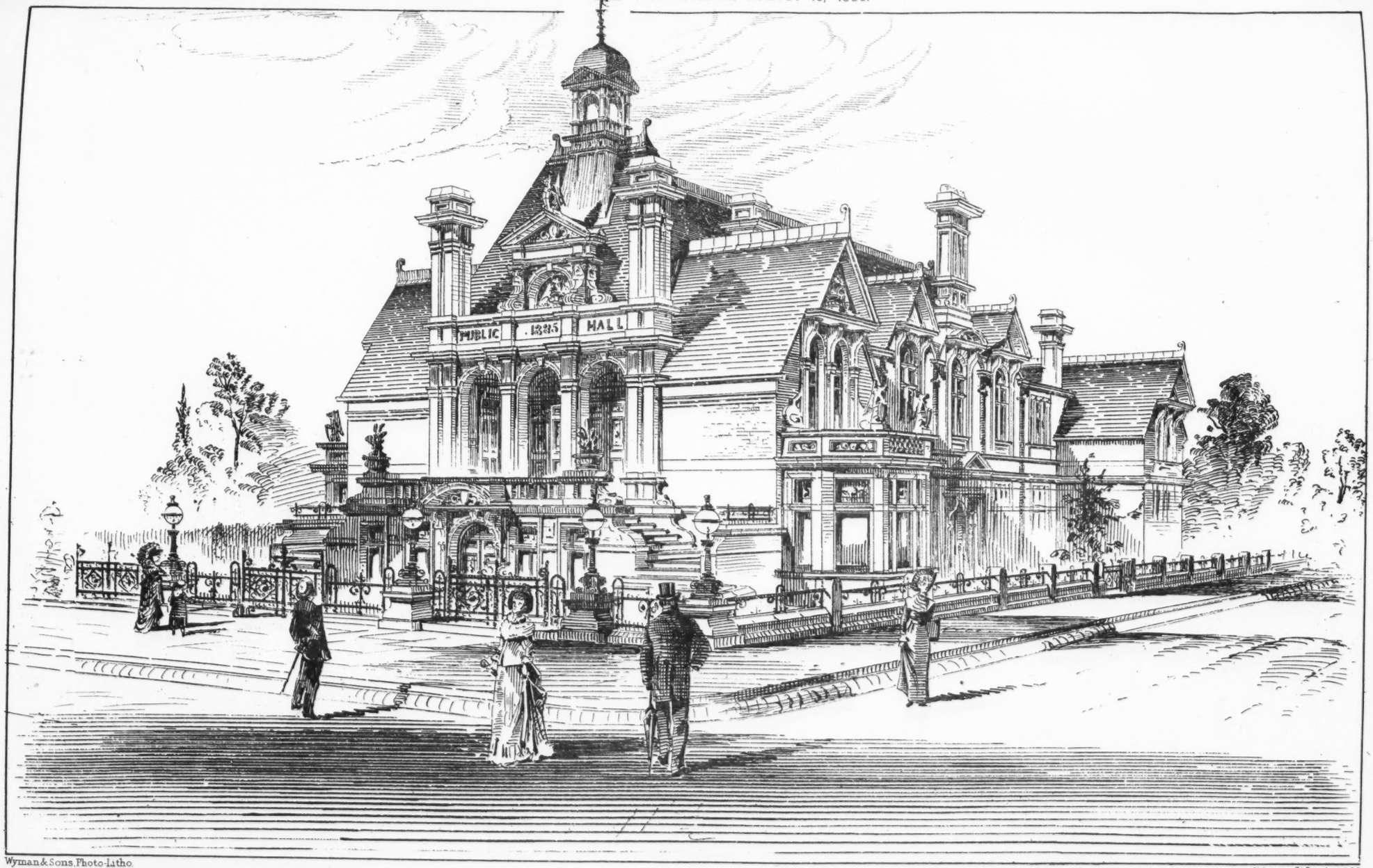


PHOTO-LITHO. SPRAGUE & Co LONDON

S. PADARN CHURCH, LLANBERIS, N. WALES.

INTERIOR VIEW LOOKING EAST.

MR. ARTHUR BAKER, ARCHITECT.



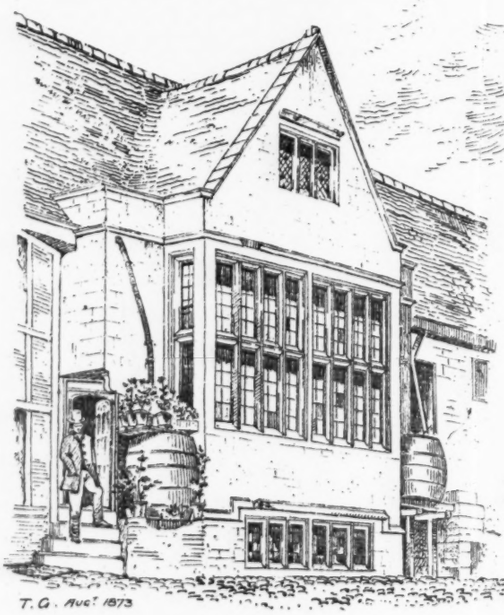
Wyman & Sons, Photo-Litho.

C. Queen St. London, W.C.

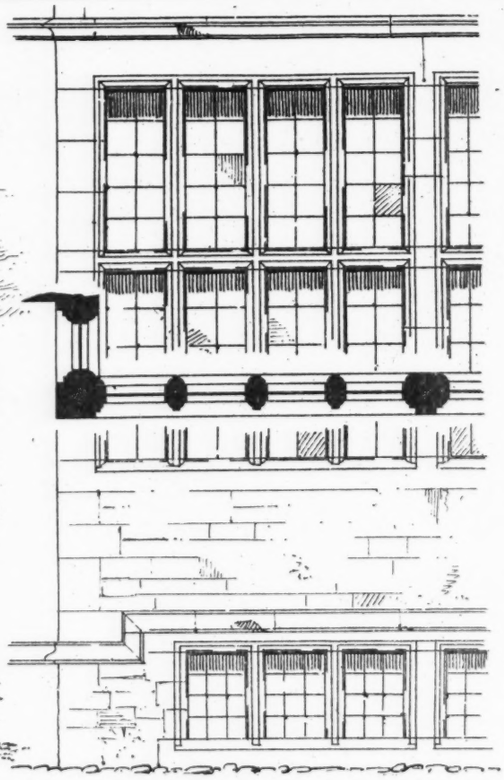
ACCEPTED DESIGN FOR NEW PUBLIC HALL AND INSTITUTE, SLOUGH.——Mr. H. A. Cheers, Architect.

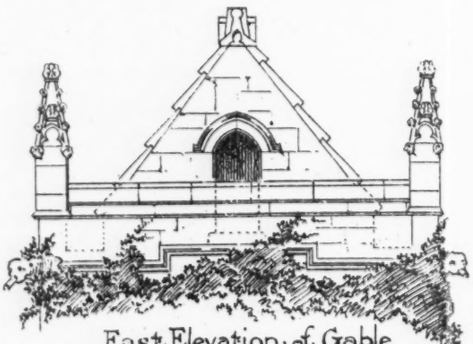
"Reindeer Inn" Banbury.

Scale of Feet.

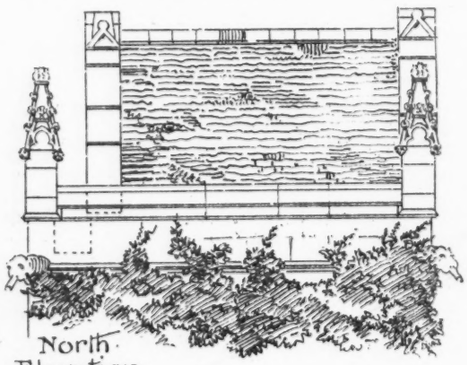


T. G. Aug.t 1873

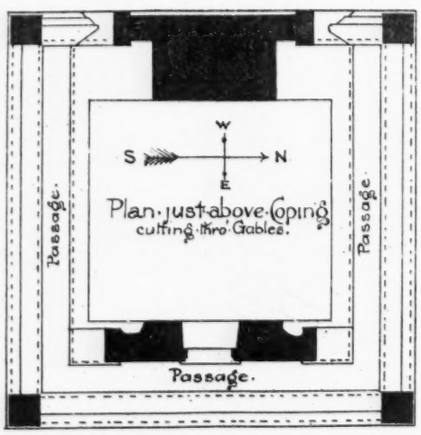




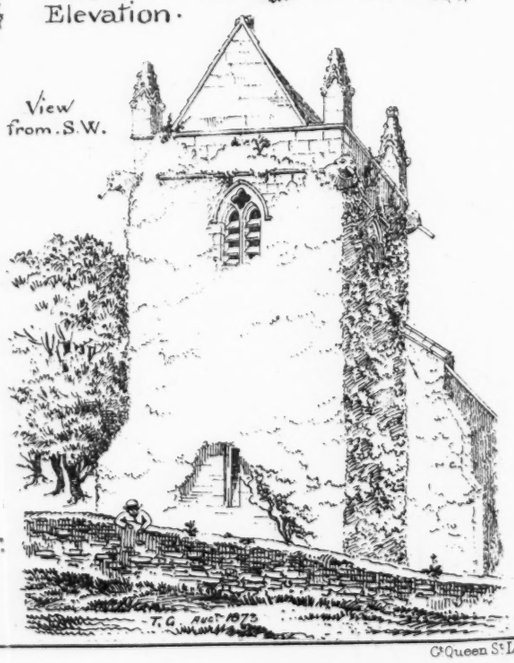
East Elevation of Gable.



North Elevation.



View from S.W.



T. G. Aug.t 1873

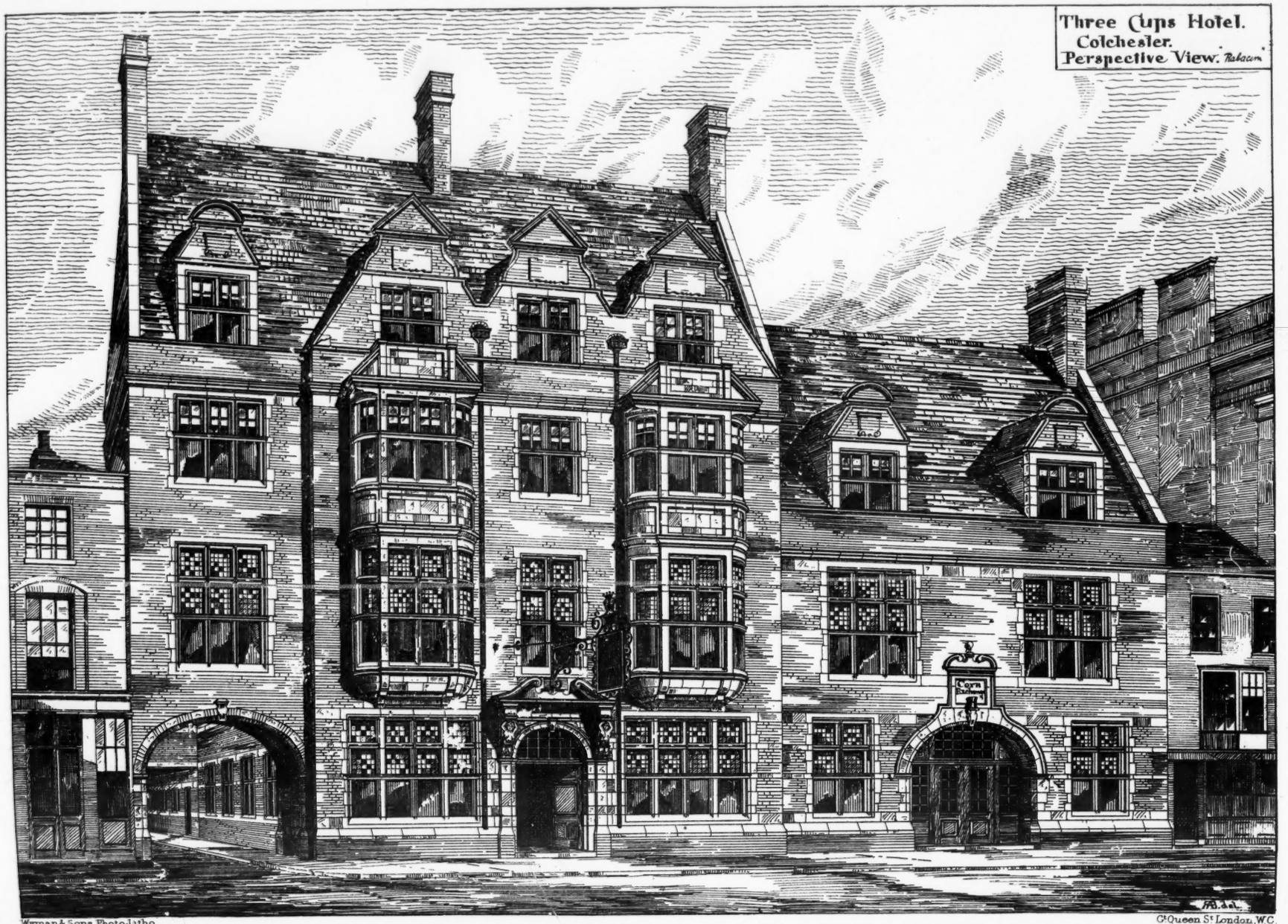
Tower of Thorpe-Mandeville Ch:

Scale of Feet.

Thos: Garrait. del. July 1885.

Wyman & Sons, Photo-Litho. C.t Queen St. London, W.C.

SKETCHES IN CONNEXION WITH THE ARCHITECTURAL ASSOCIATION EXCURSION, 1885.



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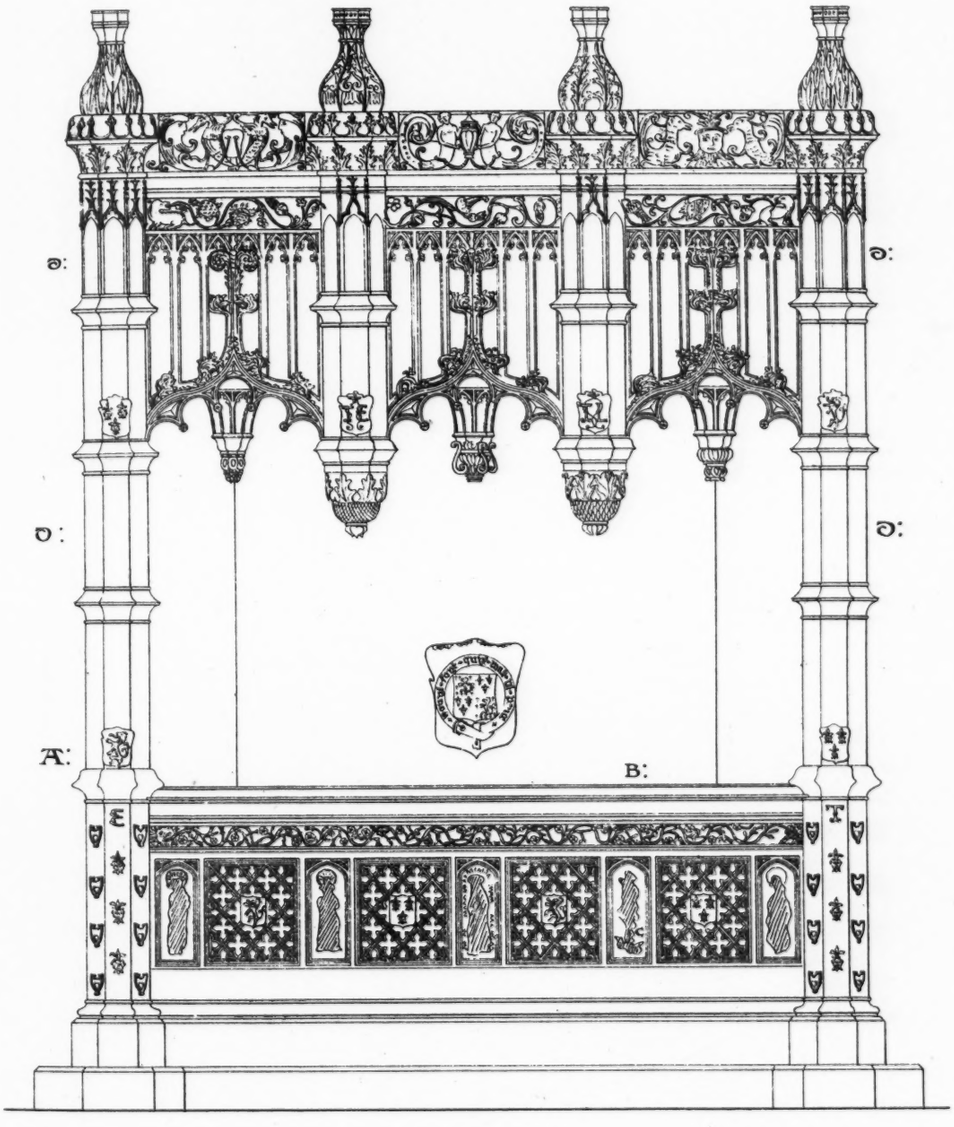
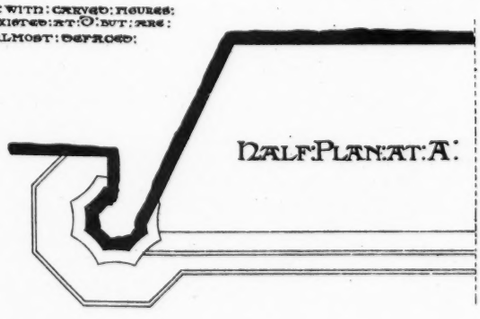
DESIGN SUBMITTED IN COMPETITION.—Mr. R. A. Briggs, A.R.I.B.A., Architect.

TOMB: OF: LORD: DE: LA: WARR:
BROADWATER: CHURCH: SUSSEX:

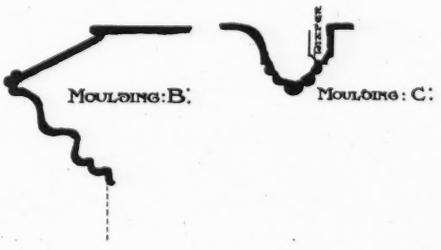


ELEVATION:

NICHES: WITH: CARVED: FIGURES:
ONCE: EXISTED: AT: O: BUT: ARE:
NOW: ALMOST: DEFACED:



HALF: PLAN: AT: A:



MOULDING: B:

MOULDING: C:

F. J. KENNARD:
MEMB. ET: DEL:

INS: FT:

Wyman & Sons, Photo-Litho

C^t Queen S^t London, W.C

THE ANNUAL EXCURSION OF THE ARCHITECTURAL ASSOCIATION.

The annual excursion of the Association commenced on Monday last, the headquarters this year being Banbury. The first place visited on Monday morning was Swalcliffe, the home of the Wykehams, many of whom have monuments in the church. A large barn in the village is said to have been built by the greatest of all the family, William, bishop of Winchester. The church has work in it of many periods, beginning even in Saxon times; for over the Norman arcade, and mutilated by it, are some small round-headed windows, probably those which, far up from the floor, dimly lighted the rough building in which the predecessors of the knightly Normans worshipped. Towards the chancel the Norman arcade suddenly becomes Decorated; the junction is clumsy, the later artists having taken no pains to blend the two styles. They are sometimes caught napping, those Decorated men; all Gothic work is not perfection, though labelled with a good adjective. The furniture of the church is chiefly of the seventeenth century. An inscription records that the pulpit was given in 1639; the pews are dated 1637; and the south doors do credit to their donor, Thomas Chaberlayne, who gave them in 1639. An unusual feature is a flight of steps from the street to the churchyard, which seems to be of the same date as the pews.

From Swalcliffe the way led up and down steep hills, and across the border of Warwickshire to Compton Winyates, the early home of the Comptons, Marquises of Northampton. Right down in a valley, among tall trees, and rising from the shaven lawns, which replace the scarcely smoother surface of the moat, lies the many-coloured house,—surely the most picturesque place in England. What is Hengrave Hall,—of last year's excursion,—to this? a dull leaden mass, *sans* light, *sans* life, *sans* everything. Here gables and turrets, and chimneys in the red, and gold and grey of brick, and the black of ancient oak, rise above each other to where, amid a wilderness of chimneys, the great corner tower stands. Surely all this was done of set purpose. The turrets and the towers,—what object do they fulfil if not to please the eye? Inside, as adjuncts to the rooms against which they are placed, they have but little use. Indeed, Compton Winyates, if the truth were confessed, would be found to give more pleasure to the owner's neighbours than to himself, which, though tending perhaps to the greatest good of the greatest number, can hardly be said to be the highest praise that can be awarded to a house, *quâ* habitation. No doubt when it was built it fulfilled its purpose well enough, but the nineteenth century asks to be conducted from one room to another by some other route than through several intermediate apartments, or the open court-yard. The house is quadrangular in plan, with most surprising ramifications, and an excess of little staircases; and, ample as was the time allowed for sketching, it was not enough to master the intricacacies of the plan as well.

No date is given for the erection of the house, but it is known to have been built, probably previously to his enclosing the park in 1519, by Sir Wm. Compton, who was from his twelfth year upwards a close friend of Henry VIII. They were companions in arms, and on the Field of the Cloth of Gold and many others, successfully challenged all comers. It was during the time of the king's first wife that the front porch was built, for in the label are the Tudor rose and the pomegranate of Arragon intertwined. In the spandrels of the arch, too, are the Castle of Castille, and the portcullis of the Tudors. In the various scraps of coloured glass, again, occur the arms and badges of England and Spain, and of the Comptons. Sir William, as a special mark of royal favour, was granted an honourable augmentation to his arms out of the king's own royal ensigns and devices, namely, a golden lion, and the half of a red dragon within a golden crown, all of which may be seen in various places about the house. Some features of the building,—notably the bay window and roof of the hall,—are said to have been brought from the destroyed castle of Fulbrook, of which Sir William had custody by the king's grant; and very possibly it was so, especially in the case of the roof, which hardly seems to have been made for its place. But when tradition goes on to say that the twisted chimneys were brought entire as well, we must reluctantly part company with it. The great hall lies on the side opposite to the entrance, so that the courtyard has to be traversed to reach it. The "screens" still remain with the old buttery-hatch intact, the door to the kitchen and the carved wooden screen separating the passage from the hall. There is much fine work in this screen. The ornaments in the spandrels over the doors are very ingenious and vigorous; in some of the panels are represented deeds of the house of Compton, but with nothing to show what is referred to; while in the cornice a vine curls in and out amid "a wilderness of monkeys" occupied in various kinds of human employments. A good deal of plain panelling remains about the house, and some stone chimneypieces, but the best of the carved work upstairs was brought from Canonbury Tower, and has been successfully fitted into its new abode. One door, however, there is which seems to occupy its original position in the topmost room of the tower, and which is an exquisite specimen of delicate Renaissance carving. In this secluded room, approached by three staircases, it is said that mass was said in troublous times, owing to the facilities the various accesses offered for escape; and an oak plank built in as a window-cill is pointed out as the altar. But the Comptons do not seem to have been a Roman Catholic family, and it is possible that tradition may err.

Certainly it was no Roman Catholic, nor even a lover of strict Anglican ritual, that built the church which stands a stone's throw off the house. It is remarkable as having been built, not only after the Reformation, but after the Restoration, and is nearly half a century later than the very similar structure at Steane, in Northamptonshire, a few miles the other side of Banbury. The plan of the church at Compton is singular, and the details of the work are of great interest. The plan consists of two equal aisles without a nave, or two equal naves without an aisle, separated by a Pointed arcade of good proportion, but poor detail; the western tower stands centrally with the general block, so that the arcade comes right down upon the middle of the small tower arch, and is there finished with a keystone corbel. The outside is better than the inside, being treated with much originality of detail. The disposition of the east end is quaint, and while the general outline of the windows is Gothic, the labels and their terminations are distinctly of the Renaissance. The tower, too, at first sight, might be taken for Decorated work, from the form and filling in of the belfry windows, but all the details are clearly quite late, and the Jacobean ornament beneath the string under the battlements displays an originality which is quite refreshing. The south side and door, and the angle buttresses, are all as carefully designed as most Gothic work, but the barrel-vaulted plaster ceilings of the interior, with their vague and badly-executed representations of Day and Night, are far below the rest of the work in spirit. The church seems to have been planned expressly to set at naught the Anglican ritual, for there is no attempt at a chancel, and the altar stands under the arcade which divides the church in two. The building was begun in 1663, and is said to have replaced an earlier one destroyed during the Civil War in 1646; the Gothic features may be the result either of imitation or the re-use of mutilated materials. Full accounts of the moneys disbursed in the erection are preserved at Castle Ashby, another seat of the Marquis of Northampton, from which the following extracts will be of interest:—

Endorsement:—

"This Bok doth: showe the charg of the Church: the Reholding ther of: the wich was entered on by som workemen uppon March the 12th, in the yeare 1663."

First entry;—

"March the 12th, 1663.

	s.	d.
Payed Nicholas Hands for two dayes squaring stone	02	08"

From summary:—

	£	s.	d.
"The Masons' Bills	103	02	09
Carpenters' Bills	019	12	04
For Slatt, Lime, Carriage, &c.	052	17	04
	175	12	05"*

The total cost is said to have been something over 300*l.*

* We are indebted to Mr. R. G. Scriven, of Castle Ashby, for these particulars.

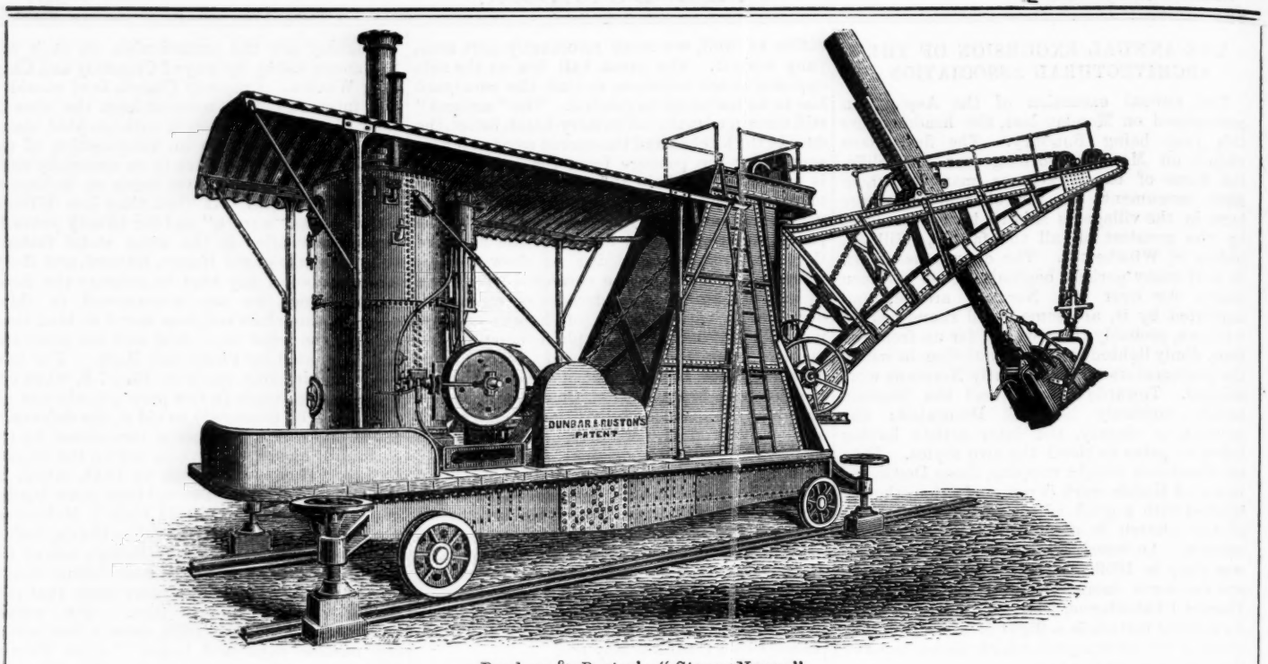
Tuesday saw the excursionists on their way to Canons Ashby by way of Cropredy and Chipping Warden. Cropredy Church is of considerable interest, but by some at least the time at their disposal was devoted, with the kind assistance of the rector, to an examination of the registers, which date back to an unusually early time, 1538, when they first began to be kept as a matter of law. At that time one William Overton was "curatt," and for twenty years he made his entries in the same stolid fashion, through the reigns of Henry, Edward, and Mary, without note of any kind to indicate the fierce storms which we are accustomed to think agitated the whole religious world at that time. In 1558 the good man died and his successor was appointed by Philip and Mary. The next entries of interest occur in 1576-7-8, when collections were made (a few poor pounds was all that could be mustered) to aid in the defence of the coasts which were being threatened by the Spaniards already, ten years before the mighty failure. Then we pass on to 1644, when, on the last day of June five soldiers were buried, and one "Edward Woll [? Wells], Maister of the King's horse," who had fallen the day before in the skirmish at Cropredy Bridge, one of the last of those encounters in which fortune smiled on Charles I. Some nine years later that particular register quietly dies. The parson finished off the year 1653, drew a line across the narrow page and began "Anno Domini 1654," but added nothing more. The old order gave place to new, parsons no longer were allowed to do the work, and with that mute involuntary protest the register ends. Another book then begins with a magistrate's order for the appointment of the necessary officers to keep it. Yet one more entry. On the 8th July, 1694, one Millicent Coleman, who had loved "not wisely, but too well," did penance for her sins by standing in a white sheet during evening service. Poor Millicent! Of course, it was all her fault. The other one, whose name is also given, was probably led astray, as he seems to have got off scot-free; it was Millicent who was guilty, for she had to bear the blame.

Not the least impressive thing about Cropredy is the pendulum of the clock silently and solemnly swinging to and fro before the little west window. Not so silently, however, but what you can hear it if you go near the tower. Its grave thuds are less kind than the imperceptible march of the shadow on the sundials at Compton. There is no desire there to thrust upon any one's notice the flight of time, but if you have any curiosity on the subject wait for the sun-shine, and on any wall you may gratify it.

> "Thou, by thy dial's shady stealth mayst know,
> Time's thievish progress to Eternity."

Chipping Warden Church offers all the charm conferred by an absence of restoration. It is a good church, chiefly Decorated in character, with much excellent flowing tracery. The arcade and west tower are Perpendicular, and the tower is so much like that at the neighbouring church of Edgcott that it is supposed they were the work of one designer. Among the lesser features of interest are a small but pronounced hagioscope and a small recess, perhaps a credence, in the north wall of the chancel, with a seventeenth-century door. In the churchyard, as in all the churchyards hereabouts, are some excellently designed and executed tombstones, dated principally between 1670 and 1720.

The great visit of the day, however, was to Canons Ashby (illustrated in last week's *Builder*), where the cordial hospitality of Sir Henry and Lady Dryden at once made the visitors free of the whole place. Canons Ashby is so called from a Priory of Augustinian Canons, which existed from the time of Henry II. "Essebi Cannonicorum" is the name it goes by in old deeds. The whole place consists of the church, the house, and three or four cottages. The church is the remnant of the old church of the Priory, now reduced to less than a fourth of its former extent. The west front is a particularly happy mixture of early and late work. The lower arcade and the door belong to the crispest period of Early English; the great Perpendicular window alone marks the period of large design. The massive tower, which aligns with the west front, is singularly dignified; and the whole group makes one regret that no more is left. Work like this conveys a constant reproach to designers. There is nothing in it, you may say; there is no effort,



Dunbar & Ruston's "Steam Navvy."

it seems to be there because that was its place. Who designed it? No one; it wanted no designer, it grew. And yet how much beautiful work there is in which the designer is evident in every stroke. Take an interlacing Celtic pattern; how ingenious it is! What patience, what skill the designer must have possessed! and yet the work itself is nothing much when it is done. Admiration of the work is lost in admiration of the workman. But not so in such an arcade as this at Canons Ashby. No one thinks of its ever having been designed. How does the nineteenth-century smart young fellow like that? Is he content to lose his individuality, and let his name die if his work may live?

After the Dissolution, the possessions of the priory in this parish were granted to a Sir Francis Bryan, about the same time as the earliest Dryden came hither from Cumberland. From this Sir Francis Bryan they passed to the Cope family, who converted the domestic buildings of the Priory into a house. The church was probably left to go to decay, and among other things went the chapel of St. Bartholomew, in which a lamp burned night and day, so ordered by Emma de Lege (a descendant of the founder of the Priory), who, about the year 1200, "gave the dovecot in Podington with toft and croft and other pertinencies for her health and the souls of her husband Bartholomew de Lege and Nicola her daughter," and for the support of the said lamp in the chapel "where their bodies rest." Short-sighted Emma de Lege! where is the chapel now, and where the bodies that rested in it; and the lamp?

"The lamp is shatter'd,
The light in the dust lies dead."

And the souls of Bartholomew the husband, and Nicola the daughter, how do they fare now that the dovecot in Podington has gone, with toft and croft, to some one else? But to return to the Copes, who lived in the renovated Priory buildings. A daughter of the family married John Dryden, who had already built a house a little way up the hill, and in fulness of time the Copes died out or disappeared, and the whole place came into the hands of the Drydens, who meantime had enlarged their house considerably. The converted house of the Copes was finally destroyed, and the place thereof knew it no more. Meantime the home of the Drydens had been growing old and grey, with a few of those golden streaks which it is the privilege of houses only to acquire with age. The baronet who pulled down the house of the Copes added to and altered somewhat his own home. He built walls and piers and steps, he put in sash-windows and a central door to the hall, all between 1708 and 1710, and since then nothing has been done. The trees have grown and distorted the steps; the greyness has spread over the more recent work; but the terraces slope away in front of the house very much as they did then, and but for the increased size of the cedars and yews, Samuel Richardson could hardly detect any change since he came down here to write "Sir Charles Grandison." "Glorious John," however, would hardly feel so much at home, for his descendants have built many garden-walls and altered the aspect of the place considerably since the time when he courted his cousin, the daughter of the reigning baronet. Canons Ashby will not vie with Compton Winyates in colour and form, but it has this same delightful air of quiet and peace, and it has this advantage over many historical houses, that its owner is a born antiquary, with a wide knowledge of all branches of his favourite study, and a keen appreciation of the value of a piece of archæological evidence that has never been tampered with.

We will continue our notes of the excursion next week.

INSTITUTION OF MECHANICAL ENGINEERS.

MEETING AT LINCOLN.

The Summer Meeting of the Institution of Mechanical Engineers was held at Lincoln last week, and there was a large attendance of members and visitors from all parts of the kingdom and some from the Continent.

The proceedings commenced with a reception of the members in the Masonic Hall by the Mayor of Lincoln, Mr. Francis Jonathan Clarke, who, on behalf of the town and the Local Executive Committee welcomed the members to Lincoln. After some formal business the address of the President of the Institution for the year, Mr. Jeremiah Head, was read by the secretary. This extended to a very considerable length, and dealt with the relative advantages of iron and steel for various constructive purposes. The general conclusions drawn by the author were that steel was superior to iron for rails and tyres, marine and other boilers, but that wrought iron is still preferred for heavy forgings, general blacksmith work, and bridge and roof building. In speaking of the quality of the materials essential for bridges and roofs the author placed, as of primary importance,—1st, high elastic limit under tension and compression in one direction; and, 2nd, non-liability to corrosion under atmospheric conditions: and, of secondary importance,—1st, ultimate tensile strength; and, 2nd, ductility. Referring to rolled joints for building purposes, he said there appeared to be no advantage in making them of steel, as in that material they are more difficult to get sound at the edges, less easy to straighten, and generally more costly to produce. If made thinner than the ordinary sections for iron, in order to reduce their cost in steel, they are deficient in stiffness. He also remarked that, at their present market price of 4*l.* 2s. per ton free on board at Antwerp, rolled joists are the cheapest form in which finished iron of any kind is, or, perhaps, ever has been, produced.

A vote of thanks for the President's address was proposed by the Mayor of Lincoln and seconded by Mr. Nathaniel Clayton.

The first paper read was one by Mr. Joseph Ruston, M.P., on Dunbar & Ruston's "steam navvy," a form of machine considerably introduced of late years on railway, dock, and other contracts where large excavations have to be made. It was claimed by the author of the paper that his steam navvy can excavate and deliver into wagons any material capable of being cut, such as sand, gravel, chalk, and all kinds of clay; that it can also deal with these materials when interspersed with stones and boulders, and, without being unduly strained, it can cut through seams of flints, shale, slate, or even sandstone. The author also asserts that, under favourable conditions, his navvy can raise and fill into wagons nearly 1,000 cubic yards of earth per day of ten hours. The general construction of the "navvy" will be understood from the accompanying illustration. It may be described briefly as a strong rectangular wrought-iron frame, on which the engine, boiler, and working parts are mounted. The jib is of twin construction, carrying an adjustable arm, to which the working scoop is attached; the scoop is raised or lowered by the main chain passing over the extremity of the jib. The working movements are controlled by two men,—a driver and a wheelman. The driver raises the scoop while making its cut, swings it round into position for discharging, and back again afterwards, and lowers it down. The wheelman regulates the depth of the cut, releases the scoop from the face of the bank, and opens the door or bottom for discharging its contents. The engine is of the ordinary vertical type, worked by a cross-tube boiler, carrying some 80 lb. pressure of steam. The main winding drum is tapered, so as to give the engine the most power when the chain is pulling at least advantage, and *vice versâ*; it is loose on the shaft, is driven by a clutch, and controlled by a powerful foot brake. In excavating, when making a cutting, the navvy first drives a "gullet" and double railroads, one on either side of the navvy, and connected with a central road by short "jump" lines, are provided for getting rid of the excavated material.

The author calculates that, under ordinary circumstances, the working expenses of his navvy, allowing for depreciation, repairs, and interest on capital would amount to about 4*l.* 15s. per day, which, divided by the output, gives as the cost of excavation say three halfpence per cubic yard for sand or gravel, and twopence for hard clay, or a saving over hand labour of from 2d. to 6d. per cubic yard. It is estimated to dispense with the labour of about seventy men. A desultory discussion followed the reading of this paper, and although the economic value of the machine was admitted, it was generally concluded that the successfu

working of the machine depended to a considerable extent on the skill of the driver in charge.

Amongst the works visited in Lincoln on the first day were those of Messrs. Clayton & Shuttleworth, and Messrs. Ruston, Proctor, & Co. As our readers are probably aware, Messrs. Clayton manufacture what may be called the staple products of Lincoln, viz., portable and other engines, thrashing-machines, grinding-mills, and other agricultural implements. The works themselves may be said to be built on a swamp, and the foundations have necessarily been of a most expensive character, it having been found necessary to drive piles, not only for the buildings, but for each separate forge, engine, or boiler, and for most of the heavy tools. It was also stated that scarcely a brick in the present works, which cover about twenty acres of ground, occupies the same position it did in 1851.

In the erecting shop, a building some 250 ft. by 90 ft., the management have apparently endeavoured to reduce the cost of lifting heavy weights about to as low a point as possible. We noticed several over-head travelling cranes, and also somewhat of a novelty in the shape of a travelling jib-crane, running on a single rail through the whole length of the shop.

The largest shop in the works is the boiler-shop, 255 ft. by 180 ft., which is well supplied with all necessary appliances, including one of Tweddell's hydraulic presses for flanging boiler plates, which we have already noticed in a previous issue of the *Builder*. Speaking generally, manual labour appears to have been reduced to the lowest limits, and neatness, order, and high-class workmanship are exemplified throughout the works.

The first day's proceedings were brought to a conclusion by a musical service in the Cathedral, to which the members were specially invited by the Bishop and Dean and Chapter. The Bishop delivered an address to the members, in which he eloquently urged the advisability and necessity of religion and science, which were not in themselves antagonistic, going forward hand in hand.

The other papers read of special interest to our readers were "On recent adaptations of the Robey Semi-portable Engine," by Mr. John Richardson; and "Private Installations of Electric Lighting," by Mr. Ralph H. C. Nevile. Mr. Richardson's paper was a very short one, and described recent improvements in engines for sinking purposes, and he claimed that, as in the Robey Engine, all the working parts were fixed together on a massive foundation plate, the whole of the strains due to the working of the machinery are absorbed by the base plate and brought near to the position of greatest stability, viz., the ground line, consequently the boiler was set free from all mechanical strain. Where engines are required for sites difficult of access and where transport is very expensive, the author employs in the construction of his engines wrought iron and steel in lieu of cast, thus effecting a large saving in dead weight and consequent cost of carriage. The paper concludes with some remarks on compounding and governing the engines for various duties.

Mr. Nevile's paper on private electric lighting was an interesting one, but our space prevents at present more than a passing notice. The author in his installation used an ordinary 6-h.p. portable engine, some ten years old, in conjunction with a Siemens S D 9 compound shunt-wound dynamo. The driving band was a 4-inch linked leather belt, which ran very steadily; the lamps used were mostly 100-volt 20-candle-power lamps. On starting, everything worked well except the governor of the engine, which proved utterly unsuitable; in place of the ordinary ball governors the author substituted a Richardson's electric regulator, with the result that there was a remarkable improvement in the lights, which now remained perfectly steady. The paper next dealt with various improvements in electric lighting private houses, the duration of the lamps, &c., and the author asserted that a good governor will soon save its own cost by an increased life for the lamps, and is of vital importance in electric lighting. About this we should imagine there could be no dispute.

A long discussion ensued, in which Sir James Douglass, Mr. Crompton, Mr. Walker, Mr. Fairfield, Mr. Willans, and others took part.

We cannot help thinking there was one very important omission in this paper, and that was the one of cost, as compared with other methods of lighting private houses, and as, unfortunately in these days, everything must be looked at in its commercial aspect, the author has left us unable to judge of his results in this direction. Before his paper is printed in the Proceedings of the Institution, we trust he may be able to add this very necessary information.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

The forty-second Annual Congress of this Association will be held at Brighton, commencing on Monday next, August 17th, and terminating on Saturday, the 22nd, with two extra days to Tuesday, the 25th inst. The president is the Duke of Norfolk, E.M., and there is a strong list of vice-presidents, besides an influential local committee.

The following is a synopsis of the programme of the proceedings of the Congress:—

Monday, August 17.—Opening meeting at the Royal Pavilion at 2 p.m. Reception by the Mayor and Corporation, and delivery of the inaugural address by Sir James Picton, after which Mr. F. S. Sawyer will read a short paper on "Old Brighton." Visit to the Church of St. Nicholas, which Archdeacon Hannah will describe. Afterwards visit the Museum, where Mr. Henry Willett will give an account of the local antiquities and ceramic ware, assisted by Mr. Benjamin Lomax. Opening dinner at the Grand Hotel at 7·30 p.m.

Tuesday, August 18.—Leave by special train at 8·30 a.m. for Chichester; visit the Museum, where Mr. C. Roach Smith will describe Roman inscriptions; thence to the excavations, made for the Association, of Roman remains at the south walls of the city, in the grounds of the Dean and Chapter; thence to the inner part of the walls, in the grounds of the Bishop of Chichester, and the bastion of original work, which Mr. C. Roach Smith will comment upon. At 11 a.m. visit the cathedral, where Mr. Gordon M. Hills will conduct the party. Luncheon at the Dolphin Hotel at 1 p.m.; afterwards at 2, proceed by carriages to Boxgrove, by the Roman road to Strettington (the Stratone of "Domesday Book") for remains of Priory Church, &c., of which Mr. C. Lynam will give a description. Leave, *en route* for Goodwood, 2½ miles, by Halnaker, for remains of ancient house. At Goodwood, by the invitation of the Duke of Richmond and Gordon, K.G., view the pictures, and examine the celebrated Roman inscription referring to "Claudia and Pudens," and on which Dr. Birch, F.S.A., will probably say a few words. Return by carriages to Chichester, and thence by special train to Brighton. Evening meeting at the Royal Pavilion, 8·30.

Wednesday, August 19.—Leave by train at 8·50 a.m. for Lancing, where carriages will be in waiting for a drive to Sompting, where the church will be visited, and described by Mr. Loftus Brock, F.S.A.; thence to Broadwater, where the church will be inspected and described; thence to Cissbury, which famous encampment will be commented on by Mr. Walter Myers; afterwards drive to Findon, where, after seeing the church, luncheon will be partaken of. At 3 p.m., drive to Clapham, and examine the church and its brasses; thence to West Tarring and Salvington, inspect the church at West Tarring, and then leave for Worthing Station in time for train to Brighton at 5·55. Evening meeting at the Royal Pavilion at 8·30.

Thursday, August 20.—Leave the Grand Hotel by carriages at 9 a.m., for New Shoreham, reaching there about 9·45, and visit the church, which will be described by Mr. E. P. Loftus Brock; thence drive to Old Shoreham, and inspect the church; thence drive by Upper Beeding to Bramber, for church and remains of the castle, where Mr. M. H. Bloxam will meet the party, and say a few words on its history, &c. About 12·45 p.m. leave for Steyning Church, which will be described. Luncheon at 2 p.m. at the White Horse Hotel. Leave at 3 p.m., and drive to Wiston Park, where, if possible, the house will be visited; thence proceed to the church, for its examination, and the famous Shirley monuments. Afterwards drive to Steyning Station for ordinary train to Brighton at 5·50. Evening meeting at the Royal Pavilion at 8·30.

[*Alternative Plan*, should Wiston Park, by any accident, not be able to be visited on Thursday, August 20th. Leave Grand Hotel by carriages at 8·30 for New Shoreham, and carry out same proceedings till after luncheon at Steyning; then leave by the carriages at 2·30 p.m., and drive to Edburton Church, and examine its curious lead font; thence drive, at 3·45, to Poynings Church, where there is another lead font; and at 4·30 drive to Wolstanbury Camp; afterwards to Pyecombe Church, leaving at 6·16 p.m. for drive to Brighton. Evening meeting at Royal Pavilion at 8·30.]

Friday, August 21*st*.—Leave by ordinary train at 8·50 a.m. for Arundel Station, arriving at 9·45; thence to the castle by carriages, and, by the invitation of his Grace the Duke of Norfolk, E.M., visit the interior of the castle, the keep, and the Fitzalan Chapel. Afterwards proceed to the parish church, Roman Catholic Church, and remains of Hospice, or Maison Dieu, at end of the town, and return to Norfolk Arms for luncheon at about 1 p.m. At 2 p.m. drive to Bognor, through Arundel Park, walk across the fields to the Roman pavements, which Mr. C. Roach Smith will describe. Thence drive to Amberley, for the examination of the remains of the castle, and then visit the church, which the Rev. E. G. A. Clarkson will describe. Thence by special train, at 6 p.m. (from Amberley) to Brighton. A full-dress *conversazione* will be held at the Pavilion, by the invitation of the Mayor of Brighton at 8·30 p.m.

Saturday, August 22*nd*.—Leave the Grand Hotel by carriages at 9 a.m. for Patcham Church, where the fresco over the chancel arch will be inspected. Thence drive to Ditchling Beacon, by "The Lady's Mile," and leaving at about 12 o'clock, drive to Hollingbury Camp (an ancient British earthwork), which Mr. Thomas Morgan will describe, as well as Ditchling Beacon; then proceed to Hollingsbury Copse, by the invitation of Mr. J. O. Halliwell Phillips, where an examination of his unique collection of Shakspearean deeds, prints, books, &c., will be made under his guidance. Afterwards, about 4·30 p.m., drive to Preston Church, which will be examined and described, and thence to Brighton. Closing meeting will be held at the Royal Pavilion at 8·30.

Extra Days.

Monday, August 24*th*.—Leave by special train for Lewes at 9·30 a.m.; stop to visit Southover Priory and Church, then proceed to the castle and museum. At 11 a.m. proceed to Berwick, where carriages will be in readiness to drive to Michelham for remains of priory, thence drive to Alfriston for luncheon. At 2·15 p.m., the drive will be continued to Wilmington, where the church and priory ruins will be visited. At 3·30 p.m., drive to Polegate Station for special train to Pevensey, where the castle and church will be examined. Leave Pevensey by same train at 5·30 p.m.

Tuesday, August 25*th*.—Leave by ordinary train at 8·55 a.m., especially stopping at Three Bridges Station, where, about 10 a.m., carriages will be in readiness to convey the party to Worth Church, which will be examined and described. Leave at 12 o'clock and drive to Crawley for luncheon at the George Hotel; and thence by Handcross, through Tilgate Forest and Staplefield to Cuckfield, visit the church and Cuckfield-place, and drive to Hayward's Heath in time for the 7·3 train to Brighton.

ELECTION OF TWO DISTRICT SURVEYORS.

At the meeting of the Metropolitan Board of Works, on the 7th inst., the first business proceeded with was the election of District Surveyors for (*a*) Bethnal-green East and South Bow, and (*b*) the Northern Division of Marylebone. There were thirty-one candidates. The number of candidates for each appointment was first reduced in the usual way by show of hands to six. The subsequent votings were as follow:—

Bethnal-green, East and South Bow.

	Second Vote.	Third Vote.	Fourth Vote.	Fifth Vote.	Final Vote.
Ashbridge, A.	25	18	21	13	—
Clarkson, S. F.	18	18	12	—	—
McLachlan, H.	18	16	17	15	7
Mundy, T. E.....	15	—	—	—	—
Saunders, M. L. ...	19	14	—	—	—
Street, E.....	30	28	28	30	27

Mr. Street was therefore declared elected District Surveyor for the district of Bethnal-green East and South Bow.

North Marylebone.

	Second Vote.	Third Vote.	Fourth Vote.	Fifth Vote.	Final Vote.
Ashbridge, A.	21	19	20	21	20
Clarkson, S. F.	16	11	—	—	—
Edmeston, J. S. ...	17	13	10	—	—
McLachlan, H.	21	19	20	19	17
Mundy, T. E.....	16	19	18	13	—
Saunders, M. L.....	10	—	—	—	—

Mr. Ashbridge was therefore declared duly elected for the district of the Northern Division of Marylebone.

Scientific Experiments regarding Dry-Rot.—The *Breslau Gewerbe Blatt* records some interesting experiments made by Prof. Poleck with the view of illustrating his theory that the development of the germ of dry-rot increases in rapidity according to the proportion of phosphoric acid and potassium in the wood. It has been found that wood felled in winter contains much less of these agents than that felled in spring, this assertion being proved by the impossibility of cultivating dry-rot spores in the former wood, although with the latter Prof. Poleck was completely succesful, the other conditions being alike in both cases. His experiments likewise establish the facts that these spores require a certain time for their development, that they first attack the wood itself, and that a considerable infection has taken place in the wood before the mycele appears on the surface where it then rapidly spreads.

The Student's Column.

DESCRIPTIVE GEOMETRY.—Part II.

XII.

CONTINUING the same subject with which we were dealing last week, we take another aspect of the same problem.

We can find the plane Q tangent to the torus in a point m by the same method used for other surfaces of revolution, as shown in fig. 139, but we shall find that planes such as Q tangent to the inner surface of the ring cut the torus, whereas planes such as S tangent to the surface of the torus in a point n outside the parallels D touch the surface only in one point, as we have seen before, for other surfaces of revolution. The outer and the inner surfaces of the torus differ very much in character, for the one is convex and the other concave, like the throat of a pulley-wheel. In convex surfaces all curves drawn through a point of the surface are on the same side of the plane tangent in that point, but we can see in fig. 142 that if we take the meridian curve and the parallel which pass through the point m, the meridian will be on one side of the tangent plane Q, whereas the parallel will be on the other side of that plane, so that necessarily the plane Q, although it contains all the tangents to the surface of the torus in m, yet must cut the surface of the torus as well. (It seems nonsense to call a tangent plane one that cuts the surface; we must take a broader view of the word "tangent" than the usual acceptation, and understand as a tangent plane the plane to which the point m belongs when m is considered as an infinitely small surface.) The section made by a tangent plane inside the torus is found by the same method shown for any plane in fig. 143, but the curves meet in the point m, and we cannot find the tangents to the curves of intersection in that point; for the tangents to the meridian and to the parallel are in the plane Q, so that we can get no intersection of planes. Another method has to be used which we shall explain at some future time, as it depends on properties of surfaces which we have not yet seen. It can be demonstrated by algebraical calculation that if the plane P is so inclined as to be twice tangent to the torus, it will cut the torus according to two plane equal circles intersecting one another in the points of contact m. (See fig. 142).

To find the intersection of a torus by a plane, the easiest way is to rotate the plane round the axis of the torus so that the plane P be perpendicular to the elevation. In our figure Q^h is the trace of the plane tangent to the torus in the point m of the section, and $m\,t$ is the tangent to the section itself. We have also turned down the plane P round its horizontal trace P^h to show the real shape of the section. (See fig. 143.)

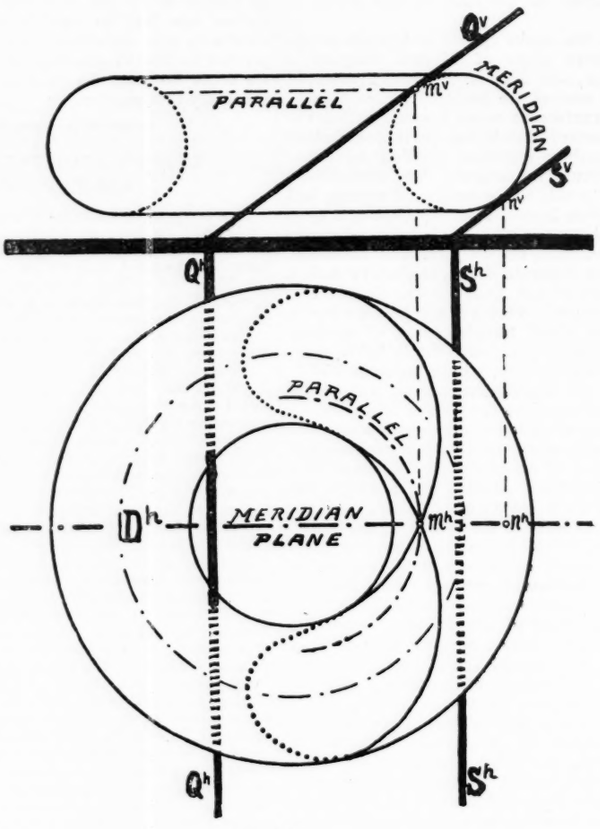


Fig. 142.

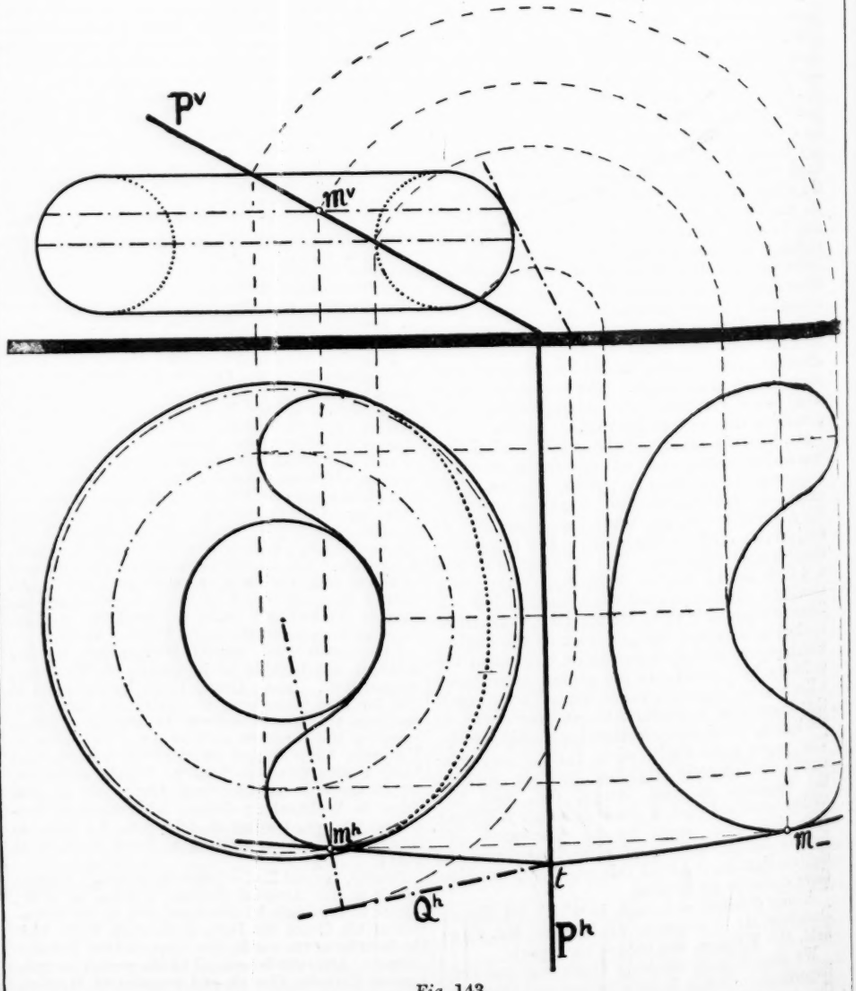


Fig. 143.

SLOUGH INSTITUTE COMPETITION.

SIR,—With reference to your notice of my design for the Slough Institute, perhaps you will pardon my pointing out that in addition to the Mackenzie-street entrance to the public hall, there are two other entrances to it from the adjoining road, each having a roomy lobby in connexion opening directly on the hall, and these latter would be the entrances chiefly used for this section of the building. There is also special platform entrance.

The separate reading-room was intended for newspapers and periodicals, and, therefore, it was thought that no inconvenience could arise by the passage intervening between it and the library, and that same with its reading-room would benefit in greater privacy and quietness, for so being apart.

As regards the ventilation, all roofs are ceiled at collars, ventilating trunks being placed above connected with vents in ceilings and air-pump ventilators on roofs, wall-flues being taken up from lower rooms. Fresh air supplied by Tobin's tubes. I think this is fully explained in written particulars accompanying design, if not perhaps indicated on drawings as clearly as might be.

Of course, the money at command precluded anything but the simplest treatment.

THOS. R. RICHARD.

PROPOSED NEW THEATRE.

SIR,—With regard to the "Note" in the *Builder* of last week *re* the Proposed New Theatre on the site of the "Occidental" I am the architect, and not Mr. William Emden, as stated. Will you kindly correct this? WALTER EMDEN.

"PREHISTORIC AMERICA."

SIR,—Why is all recognition of a possible early communication so peremptorily shut out? You may call it improbable, but it should not be utterly ignored. North America approximates to Europe *viâ* Greenland and Iceland; and far more nearly so to Asia, *viâ* Behring's Straits.

Many authorities favour the suggestion that early Buddhist emissaries, in an advanced stage of civilisation, may easily have reached the Esquimaux and wandered south; the key pattern ornament is no less Egyptian and far more Indian, though called Greek. Our King Alfred has let us into the secret of early whaling in the North Atlantic; why may not such early explorers have visited Greenland and wintered there; then, not succeeding in the return voyage, have visited Newfoundland, thence travelling south?

There is no occasion here to dwell upon supposed results, analogies, and plausible coincidences; we learn from Oriental sources that the natural set of currents may carry unwilling navigators from the Pacific shores of Eastern Asia to the coasts of Chili and Peru; it appears also that, from all time, a possible communication has existed from West Africa to the mouth of the Orinoco.

If all similarities of habit, custom, ornament, language, utensils, structures, &c., be fully accumulated, the probabilities will incline in favour of such lost communication, and the balance of opinion will turn thereto, rather than support the theory of separate originals. A. H.

Aug. 7, 1885.

PROVINCIAL NEWS.

Oswestry.—The Oswestry Town Council are about commencing a new water-storage reservoir at Pen-y-gwely, seven miles from Oswestry, for which they obtained Parliamentary powers during the last session. Messrs. Filliter & Rofe, of the East Parade, Leeds, are acting as consulting engineers, and Mr. H. T. Wakelam, Assoc. M. Inst. C.E., Borough Surveyor, Oswestry, as local engineer.

Exeter.—The architect of the City of Exeter Lunatic Asylum, Mr. R. Stark Wilkinson, A.R.I.B.A., having reported to the Town Council on lighting this Asylum by gas or by electricity, the Council decided to adopt the electric light, and invited tenders for installing 400 20-c.p. incandescent lamps, including all fixtures, dynamos, storage batteries for half the lights, engines, and all cabling and fixing, the engines to be supplied by steam from the asylum boilers at the cost of the Council, but tenders were to state the yearly cost of keeping the installation in working order, including renewals of lamps, repairs to cables, engines, dynamos, and storage batteries. Fourteen electric firms sent tenders, and the Council have accepted that of the Consolidated Electric Company (Limited), of 66A, Cow Cross-street, for 1,945*l.*, and the company agree to keep the same in proper working order for seven years for 175*l.* per annum.

STAINED GLASS.

Fulham.—A stained-glass window has recently been placed in the north aisle of All Saints Church, Fulham, to the memory of the late Bishop of London, Dr. Jackson. The subject represented illustrates the Conversion of St. Paul. There is a memorial inscription on a brass beneath the window, which reads thus:—"To the Glory of God, and in reverent memory of the Right Reverend Father in God, John Jackson, D.D., Bishop of Lincoln 1853–1869, Bishop of London 1869–1885, who rested from his labours on the Feast of Epiphany, 1885. This window is here placed by his neighbours and friends and others connected with the Parish of Fulham." This window (as, indeed, nearly all in the church) is from the studios of Messrs. Heaton, Butler, & Bayne. The same firm have also decorated the reredos in gold and colours, and painted the five panels with figure-work. Mr. Blomfield is the architect of the church, and has supervised the work throughout.

Bradford.—A large four-light stained-glass window has just been unveiled in St. John's Church, Bradford. It represents, in the chief lights, the Adoration of the Magi, and in the tracery, Christ blessing children. It has been erected by way of memorial to the late Mr. Pilling, of Bradford; and the artists are the Messrs. Powell Bros., of Leeds, who have also just completed a new window for one of the lancet lights in the south side of the nave of Rathmell Church, Yorkshire.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

JULY 30.

By DANIEL SMITH, SON, & OAKLEY.

Bristol—3, Upper Old Park-hill, freehold	£285
Henbury, near Bristol—A plot of freehold land, 1a. 3r. 13p.	145
Thornbury—"Street Farm," 86a. 1r. 10p., freehold	3,200
"Shellar's Lane Farm," 68a. 1r. 10p., freehold	2,000
Freehold house and shop, and 2a. 0r. 31p.	290
Numerous enclosures of land, 126a. 0r. 14p., in lots	6,340

AUG. 4.

By DEBENHAM, TEWSON, & Co.

New Sampford, Essex—"The Fighting Cocks," public-house, and 11a. 0r. 31p. freehold	1,000
Sutton—2, 3, 4, 7, and 8, Park-terrace, 78 years, ground-rent 41*l.*	4,050

By F. LEWIS & Co.

Birchington, Kent—1 to 4, Tower Bungalow, freehold	5,000
Three plots of freehold land	800

By BELTON & SON.

Fulham-road—No. 118, term 20 years, ground-rent 6*l.*	420
Chelsea—43, Blenheim-street, 23 years, ground-rent 4*l.* 15s.	195

By S. & G. KINGSTON.

Spalding, near—"The Manor House," and 107a. 0r. 23p.	5,000
House, and 49a. 1r. 19p.	1,680

AUG. 5.

By Messrs. CRONK.

Ightham, Kent—"Oldbury House," and 1a. 2r. 30p., freehold	500
Three freehold cottages	275
A plot of fruit land, 1a. 1r. 18p.	300
Four freehold cottages	400

By F. J. BISLEY.

Bermondsey—203, Southwark Park-road, 41 years, ground-rent 4*l.*	515
Nos. 4 to 14 even, Francombe-street, freehold	1,410

By DANIEL SMITH, SON, & OAKLEY.

Golden-square—15, Broad-street, freehold	1,600
Stoke Newington—Ground-rents of £127 2s. a year, reversion in 66 years	3,370
Dartford—"The Smiths' Arms" public-house, freehold	1,500

By J. P. HOPE.

Chiswick—1, 2, and 3, Hope-cottages, copyhold	420
Acton—1 and 2, Berlin-villas, freehold	280

AUG. 6.

By BALL, NORRIS, & HADLEY.

Brunswick-square—63, Kenton-street, 21 years, ground-rent 15*l.* 15s.	350
Shepherd's-bush—53, Bloemfontein-road, 88 years, ground-rent 5*l.* 10s.	340

By SEDGWICK, SON, & WEALL.

Notting-hill—42, Peel-street, freehold	325
No. 83, Peel-street, freehold	340

By NEWSON & HARDING.

Islington—25, Highbury-grove, 57 years, ground-rent 30*l.*	490
Pentonville—31, Great Percy-street, 34 years, ground-rent 6*l.*	570

By HARDS & JENKINSON.

Streatham—11, 13, and 15, Wellfield-road, freehold	520

By PROCKTER & FRASER.

Ilford—An improved rental of 40*l.*, and reversion	1,260
Dalston—9 and 10, Appleby-road, 59 years, ground-rent 6*l.* 16s.	505
Nos. 10 and 12, Gayhurst-road, 63 years, ground-rent 10*l.*	655
Bethnal-green—49 and 51, Hare-street, 22 years, ground-rent 20*l.*	260

AUG. 6.

By BEADEL & Co.

Stevenage, near—"Chell's Farm," and 470a. 0r. 17p., freehold	8,250
Walkern—"Box Wood," containing 64a. 3r. 29p.	800
Baldock, near—"Darnall's Hall," and 431a. 1r. 21p.	8,500
Enclosures of land, 73a. 2r. 35p. (three lots)	2,050
"Quickwoods Farm," containing 814a. 1r. 14p., freehold	18,000
Enclosures of land, 26a. 0r. 34p., in nine lots	510
Manorial residence, and 414a. 1r. 32p., and the advowson and right of presentation to the Rectory of Caldecote	13,500

AUG. 7.

By GREEN & SON.

Enfield, Rosemary-avenue—A plot of freehold land, 6a. 1r. 21p., seventeen plots of freehold land, also "Montague House," and a freehold ground-rent of 7*l.* 10s. a year	3,040
Gray's Inn-road—64, Acton-street, freehold	640
Twickenham—The residence, "Meadowcroft," 96 years, ground-rent 10*l.*	620
The residence, "Mabel Lodge," 96 years, ground-rent 10*l.*	600

By BAXTER, PAYNE, & LEPPER.

Bromley, Kent—116, High-street, freehold	1,225
Orpington, High-street—Two freehold cottages	300
St. Mary Cray—"The Rising Sun" public-house, freehold	865
The freehold residence, "Hawkhurst,"	250
The freehold villa adjoining	250
Sidcup—3 and 4, Birkbeck-road, freehold	700
Gravesend—18, High-street, freehold	1,950

By WEATHERALL & GREEN.

Croydon—Seventeen plots of freehold land	1,910

Proposed Bridge across the Straits of Messina.—A project was a short time since submitted to the Italian Minister of Public Works for the construction of a bridge, connecting the Island of Sicily with the main land of Italy. The Straits of Messina at the point where it is proposed to erect the bridge, are four thousand mètres, or two miles and a half across. The greatest depth of water at this spot is one hundred mètres.

Miscellanea.

Proposed Thames Embankment at Isleworth.—At the meeting of the Hounslow and Isleworth Local Board on Tuesday last, a proposal was discussed of constructing an embankment on the side of the Thames at Isleworth. It transpired that the Vicar of Isleworth, the Rev. H. W. P. Richards, who is taking an active interest in the movement, received a communication from the Thames Conservancy Board on the subject, in which that river authority made the offer to the Hounslow and Isleworth Local Board to supply the necessary material for the construction of the embankment if the Local Board would undertake to carry out the work, which, it was stated, would involve an expenditure of several thousand pounds. The vicar urged the Board to accept this exceptionally favourable offer, as the proposed embankment would make Isleworth Reach one of the most attractive spots on the river; and be the starting point or terminus of a riverside way extending to London. He considered the Local Board, as the Sanitary Authority, should take the matter up on these grounds, if on no other. Such an offer as that of the Conservators might not be renewed. An embankment road had been constructed by the Metropolitan Board of Works on the opposite side of the river, on Crown property. Some of the members thought that although the embankment might beautify the place, it would be detrimental to the trade of Isleworth, one member remarking that he did not see why the vicar should desire to get rid of the poor people in the parish. The matter was dropped, and disappointment is generally expressed in Isleworth at the supineness of the Local Board in the matter.

Liverpool Architectural Society.—The sixth meeting of the Junior Debating Club, in connexion with this Society, was held at the Rooms, No. 9, Cook-street, on the evening of the 10th inst. Mr. Charles R. Chidson was elected chairman for the evening. There was a fair attendance of members. Mr. James Dod (visitor) gave a description of the box sextant, and of the many uses that it may be put to by the surveyor, particularly in measuring accurately the elevations of buildings to which (as often happens in light and air cases) access is forbidden. He pointed out the value of the instrument in surveying irregularly-built property and for laying down base lines in crowded thoroughfares where the use of chain or tape is inconvenient. Mr. Dod gave many illustrations of its application from his own experience as assistant for many years with one of the leading light and air experts in London, and remarked that a man could scarcely be considered a thoroughly-educated surveyor who could not fix his position on the earth's surface with the aid of the sextant. Even the small instrument he ordinarily used would gives one's latitude correctly within two miles. Mr. Dod closed his remarks with an explanation of the necessary allowances for parallax and some practical hints on the working of the instrument. At the close of the discussion it was announced that the next meeting (August 24th) would be devoted to considering whether the club should hold a winter session, and to discuss any suggestions for varying the proceedings.

Awards at the Inventions Exhibition. As soon as we have the official list complete, we will publish a list of the awards given for subjects within the classes in which our readers are specially interested. We must decline to publish statements privately furnished by the recipients of medals and awards. We may, however, mention that Gold Medals have been awarded by the Society of Arts (on the recommendation of the juries) to, amongst others, Sir Henry Bessemer, F.R.S., for the invention of Bessemer steel; Percy Gilchrist, for the Thomas-Gilchrist basic process of steel making; Hathorn, Davey, & Co., for their domestic motor (medal offered under the Howard trust); Samson Fox, for the invention of corrugated iron flues for steam boilers (medal offered under the Howard trust); Crossley Brothers, for the "Otto" gas-engine (medal offered under the Howard trust); Ralph Tweddell, for his system of applying hydraulic power to the working of machine tools, and for riveting and other machines which he has invented in connexion with that system (medal offered under the Howard trust),—some of which were lately illustrated in the *Builder*.

South Africa.—The new Dutch Reformed Church at Jansenville was formally opened on Saturday, the 20th of June last, amidst such a concourse of people as never before assembled in the little village. Representatives came from the neighbouring towns, including Port Elizabeth and Kimberley, and in all not less than 2,000 visitors were present. The proceedings were opened by prayer in the old church, after which a procession was formed and marched to the new building, where the key was handed to the authorities by the architect in due form. The building has been erected from the designs, and under the superintendence of Mr. A. H. Reid, A.R.I.B.A., architect, of Port Elizabeth, the builders being Messrs. Grant & Downie, of Uitenhage. All the concrete jambs, arches, and tracery of windows, &c., and plaster modelling, were prepared by Messrs. J. O'Connor, of Port Elizabeth. The total cost of the building and fittings amount to 7,000*l*. The plan is cruciform, 90 ft. long, 40 ft. wide, 81 ft. across transepts, and 51 ft. high, from floor to ridge. It is lighted by paraffin standard and bracket lamps, supplied by the firm of Hart, Son, Peard, & Co., of London and Birmingham, and both lighting and ventilation, as well as the acoustic properties of the building, gave perfect satisfaction, under the severe test to which they were put,—upwards of 1,200 persons being present at the service.—*Uitenhage Times.*

Sir G. H. Chubb.—Her Majesty has been pleased to confer upon Mr. George Hayter Chubb the honour of knighthood. The gentleman in question is one of the managing directors of Chubb and Sons' Lock and Safe Company, Limited. He is son of the late Mr. John Chubb, and it was Sir George's grandfather who first made the name of Chubb famous in connexion with locks and safes. Sir George Chubb is comparatively speaking a young man, lacking still some few years of forty, but since he entered the business, now nearly twenty years ago, his efforts have been unceasing in the direction of promoting the welfare of the firm's *employés*. It is in recognition of his earnest, practical, and unremitting efforts to lighten the labours and brighten the lives of the working-class, that her Majesty had bestowed upon him the high honour that has thus early in life fallen to his lot. Some few months ago we gave a description of the new dwellings and workmen's hall which Messrs Chubb have lately erected in connexion with their works in the Old Kent-road.

Northern Architectural Association.—The members of this Association had their annual excursion on Thursday, the 6th inst. to Naworth Castle. Several important additions and improvements having during the last six years being made to the historic edifice, the members were desirous of inspecting the works. Every facility for so doing was kindly granted by the noble owner, and also by the architect, Mr. Chas. J. Ferguson, F.S.A., who conducted the members over the whole of the buildings, and explained the various works. Mr. Ferguson also conducted the party through the Priory Church at Lanercost to see the works recently carried out under his superintendence. The members afterwards adjourned to the Shaws Hotel, Gilsland. The president, Mr. W. H. Dunn, proposed the health of Mr. Ferguson, and expressed the thanks of the members for the very kind and courteous way in which that gentleman had, at some inconvenience to himself, come to Naworth to meet them.

Wood-Block Flooring.—Messrs. Geary & Walker, of 7, John Dalton-street, Manchester, have received instructions to lay their patent wood-block flooring at, amongst other places, the Parish Church Salwarpe, Droitwich; St. John's Church, Stonefold, Accrington; Parish Church, Wednesbury; Highley Manor, Balcombe; chapels at Stockport and Bollington, and St. Ann's Church, Waterfoot. This firm exhibit specimens of their improved system of flooring at the Inventions Exhibition.

Technical Education. — The Saddlers' Company have established four studentships, each of the annual value of 30*l*., and tenable for two years, at the Finsbury Technical College of the City and Guilds of London Institute. The studentships will be competed for at the entrance examination to be held at the College on October 1st, and are open to pupils above fourteen years of age who are attending, or who have attended, any public elementary school in the United Kingdom.

The Club Stand, Epsom Grand Stand.—The works in connexion with the erection of the New Stand at Epsom have now been commenced, and the building is to be completed so as to be ready for use at the Spring Meeting. The accommodation will provide entrance-hall, leading to lawn and also to the dining-hall, which is to be 40 ft. by 45 ft. The balconies and rooms on the upper floors will be approached by a wide staircase which is continued up to roof standings; this will be lighted and ventilated by means of a large lantern light and by windows on the landings. Luncheon and refreshment rooms, with cloak-room and lavatories, are provided for the members of the Jockey Club on the first balcony floor. The rooms for the Prince and Princess of Wales are placed on the second balcony floor. The jockeys' rooms, &c., are to be placed at the east end of the building, and will consist of clerk of the course's rooms, jockeys' and weighing rooms, with telegraph-room for the receipt of telegrams. On the first floor, a large instrument-room, 35 ft. by 45 ft., will be provided. The balconies for trainers and reporters are continued in a line with the first balcony of the club-stand. Roof standings will be placed over. Considerable alterations will be also made in connexion with the grand stand. A new staircase is to be provided, leading to balconies, and a saloon, 40 ft. by 50 ft., with a refreshment-bar, &c., is to be placed adjoining. The buildings are to be constructed of brick, with iron columns and girders supporting the balconies. The plans have been prepared by Mr. J. Hatchard Smith, architect, Moorgate Station-buildings, E.C., and the works are being carried out by Messrs. Colls & Sons, builders, of London and Dorking, under the superintendence of the architect.

Association of Municipal and Sanitary Engineers and Surveyors.—A Lancashire and Cheshire district meeting of this Association is to be held at Blackburn on Friday, August 28th. A meeting will be held in the Town-hall at eleven a.m., when Mr. J. B. McCallum, the Borough and Water Engineer, will give a short paper descriptive of Blackburn and its public works. After luncheon the members will proceed to visit the following places and works of interest:—Blackburn Park, Free Library and Museum, Town Hall and Municipal Offices, the Exchange, Markets, Public Baths, Corporation Storeyard and Workshops, Public Abattoirs and Cattle Market, Audley Destructor Depôt, Water Supply to Canal, Audley Recreation Ground, Fishmoor and Guide Reservoirs, and the Sewage Outfall at Witton. If time permits, visits may be paid to the Lancashire and Yorkshire New Railway Station, and Darwen-street Bridge; to the Corporation Gas Works; to Messrs. Yates' Foundry; and to the Lancashire and Cheshire Telephonic Works. At six p.m. the members will dine together at the White Bull Hotel. For those who can remain in Blackburn on Saturday, Mr. McCallum will arrange an excursion to the new Bowland Water Works.

A Plumbers' Feast.—The *employés* of Mr. John Smeaton, sanitary and hot-water engineer, of Ludgate-circus and King's-cross, had their annual outing on Saturday last at the Bee Hive, Staines. The party left the works in two brakes at 8·30 a.m., and, the weather being fine, a most enjoyable day was spent. After the usual loyal and patriotic toasts had been duly honoured, "Success to the Firm" was given in a genial way by Mr. A. McKay, foreman of plumbers, and acknowledged by Mr. Smeaton, who remarked that he was greatly pleased to see so many old faces still to the fore year by year. Another toast was "Absent Friends," proposed by Mr. Gilchrist, manager of the Brighton branch establishment, and responded to on their behalf by Mr. Broadbridge.

Newport (Mon.).—New Board schools in Duke-street were opened on Monday, the 10th inst. These schools are arranged to accommodate 600 children in three departments, having masters' house and spacious covered play-sheds. The cost of building being about 4,000*l*. The design is Gothic, built with red brick, having Beer stone dressings. The latrines are fitted with Bowes Scott & Read's trough closets. Boyle's ventilators are freely used, and by the above means the sanitary and ventilation arrangements are most satisfactory. The contract has been carried out by Mr. Wm. Price, builder, of Newport, under the supervision of the architect, Mr. E. A. Lansdowne, Mr. John F. Williams being the clerk of works.

How Buildings are Disfigured.—As we have often protested against the disfigurement of buildings by advertisements, we are glad to read the following protest in the *Commercial World*:—"The recent improvements in the City in widening Queen-street, Cheapside, have brought into prominence the chief office of the Atlas Assurance Company, one of the few architectural ornaments of the City of London. The elevation is in the purest style of classic art, and it is much to be regretted that the directors have allowed it to be marred by a staring, not to say vulgar, advertisement. Surely this sort of thing might be left to the lower class of shopkeepers; it is altogether beneath the dignity of insurance, to say nothing of the dignity of a company having such a history as the Atlas."

Cupola of the Nice Observatory.—M. Eiffell has recently presented to the *Société d'Encouragement pour l'Industrie Nationale* drawings of the cupola of the above building, constructed under the direction of M. Charles Garnier, the architect of the Observatory, at the expense of M. Bischoffsheim, its founder. This cupola is said to be the largest of its class in existence, its internal diameter being 73 ft. 6 in. and its external diameter 78 ft. 6 in. The movable portion weighs 95 tons and the fixed portion 65 tons. The patented system of M. Eiffell has been adopted in its erection, by means of which there is comparatively little effort required in moving the portion intended for that purpose.

Colonial and Indian Exhibition, 1886. We understand that it is proposed to add to the attractions of this Exhibition by providing for a practical illustration of the handicrafts of India, which will be given in the form of a Royal "Karkhana," or series of Palace workshops, a feature in Eastern palaces. Arrangements are now being made to fulfil the conditions of such a palace workshop, and for the representation of a Palace Court-yard, the entrance to which will be the magnificent Gateway presented by H.H. the Maharajah Scindia, K.C.S.I., to the South Kensington Museum.

Presentation to Mr. Mark H. Judge.—On Saturday evening last, a number of the subscribers to the testimonial of Mr. Mark H. Judge, A.R.I.B.A., assembled at the Great Western Hotel, Praed-street, to present to that gentleman an address in recognition of the manner in which he had performed his duties as a member of the Paddington Vestry, together with a gold watch.

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. .....ton	6 10 0	7 10 0
Teak, E.I. .....load	12 10 0	15 10 0
Sequoia, U.S. .....ft. cube	0 2 6	0 2 9
Ash, Canada .....load	3 0 0	5 0 0
Birch ,, ...	3 0 0	4 10 0
Elm ,, ...	3 10 0	5 0 0
Fir, Dantsic, &c.	1 10 0	4 10 0
Oak ,, ...	3 0 0	5 0 0
Canada	6 0 0	7 0 0
Pine ,, red	3 0 0	4 0 0
,, yellow	3 15 0	5 5 0
Lath, Dantsic .....fathom	5 0 0	6 0 0
St. Petersburg	5 0 0	7 0 0
Wainscot, Riga.....log	3 0 0	4 10 0
Deals, Finland, 2nd and 1st...std. 100	8 0 0	9 0 0
,, 4th and 3rd	6 10 0	7 10 0
Riga	7 0 0	8 10 0
St. Petersburg, 1st yel.	10 0 0	17 0 0
,, 2nd ,, ...	8 0 0	9 15 0
,, white	6 10 0	11 0 0
Swedish.....	7 0 0	17 0 0
White Sea	8 10 0	19 0 0
Canada, Pine 1st	18 0 0	32 10 0
,, 2nd	12 0 0	18 10 0
,, 3rd, &c.	7 0 0	10 10 0
,, Spruce 1st	9 0 0	12 0 0
,, 3rd and 2nd	6 10 0	8 0 0
New Brunswick, &c.....	5 0 0	7 10 0
Battens, all kinds	4 0 0	13 0 0
Flooring Boards, sq. 1 in.—Prepared, first	0 9 0	0 13 0
Second	0 7 6	0 8 6
Other qualities	0 5 0	0 7 0
Cedar, Cuba.....foot	0 0 3½	0 0 4
Honduras, &c.	0 0 3	0 0 4
Australian	0 0 3	0 0 3½
Mahogany, Cuba	0 0 5	0 0 7½
St. Domingo cargo av.	0 0 5½	0 0 7½
Mexican ,, ...	0 0 4	0 0 5
Tobasco ,, ...	0 0 4½	0 0 6½
Honduras ,, ...	0 0 4½	0 0 6½
Rose, Rio .....ton	7 0 0	17 0 0
Bahia.....	6 0 0	15 0 0
Satin, St. Domingo .....ft.	0 0 8	0 1 0
Porto Rico	0 0 8	0 1 3
Walnut, Italian	0 0 4	0 0 5
METALS.		
Iron—Pig in Scotland .....ton	2 1 6	0 0 0
Bar, Welsh, in London.....	4 15 0	5 2 6
,, in Wales	4 7 6	4 12 6
,, Staffordshire, London	6 0 0	7 0 0
Sheets, single, in London.....	7 10 0	9 0 0
Hoops ,, ...	6 10 0	7 10 0
Nail-rods ,, ...	6 0 0	7 0 0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
COPPER—						
British, cke. and ingt. .....ton	47	0	0	48	0	0
Best selected	48	0	0	49	0	0
Sheets, strong.....	55	10	0	56	0	0
,, India	52	10	0	53	0	0
Australian, fine cash.....	54	10	0	56	0	0
Chili, bars ,, ...	43	5	0	43	12	6
YELLOW METAL.....lb.	0	0	4½	0	0	4⅝
LEAD—Pig, Spanish	11	17	6	12	0	0
English, com. brands	12	10	0	0	0	0
SPELTER—						
Silesian, special .....ton	13	17	6	14	0	0
Ordinary brands	13	15	0	0	0	0
TIN—						
Straits	90	0	0	90	10	0
Australian	90	0	0	90	10	0
English ingots.....	93	0	0	0	0	0
TINPLATES—						
IC coke .....box	14	6	0	16	6	0
IX ditto	21	0	0	25	0	0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
IC charcoal	17	0	0	20	0	0
IX ditto	26	0	0	27	0	0
OILS.						
Linseed .....ton	22	17	6	23	5	0
Cocoanut, Cochin	32	0	0	32	10	0
Ceylon	27	5	0	0	0	0
Copra.....	26	0	0	0	0	0
Palm, Lagos	29	10	0	30	0	0
Palm-nut Kernel	26	10	0	0	0	0
Rapeseed, English pale.....	25	10	0	26	0	0
,, brown	24	0	0	0	0	0
Cottonseed, refined	22	15	0	24	10	0
Tallow and Oleine.....	25	0	0	45	0	0
Lubricating, U.S.	7	0	0	10	0	0
,, Refined	8	0	0	15	0	0
TURPENTINE—						
American, in cks. .....cwt.	1	7	6	1	7	9
TAR—Stockholm .....brl.	1	2	0	1	2	6
Archangel.....	0	13	0	0	13	6

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Painting Cavalry Barracks	War Department.....	*Official*	August 18th	ii.
Pier Abutment, Pair of Villas, &c.	Lee-on-the-Solent	.....	August 20th	xviii.
Wrought and Cast-Iron, for Bridges	Midland Railway Co....	A. A. Langley	do.	ii.
Cleaning and Painting	do.	do.	do.	ii.
Supply of Broken Granite, &c.	Cor. of Rochester.....	*Official*	August 25th	ii.
Construction of Engine and Boiler-House, &c., also about 17,000 yards of Pipe Sewers	Walthamstow Lcl. Bd.	do.	August 28th	ii.
Station Buildings, &c., West Kirby Extension	G. W. and L. & N. W. Railway Co.'s.....	R. E. Johnston.....	August 29th	ii.
New Police-Station, Wanstead	Metro. Police District	*Official*	do.	ii.
Sewage Works, and Laying-down Pipes, &c.	Epsom Local Board ...	do.	do.	ii.
Gasholder Tank	Oxford Gas & Coke Co.	T. & C. Hawksley	do.	ii.
Market Hall, Shops, and Dwelling-houses, &c.	Hull Corporation.....	W. A. Gelder	August 31st	ii.
New Sorting Office, Walthamstow	Com. of H.M. Works ...	*Official*	do.	ii.
Additional Wards, &c., Guildford	Ryl. Surrey Co. Hosptl.	W. G. Lower.....	Sept. 1st	xviii.
Stabling, Cart Sheds, &c.	Bournemouth Com.....	G. R. Andrews	Sept. 2nd	xviii.
Fittings and Fixtures	Wndswth & Claphm U.	T. W. Aldwinckle	Sept. 3rd	ii.
Enlargement, &c., of Sewage-Purification Wks	Coventry Corporation...	J. C. Melliss	Sept. 5th	ii.
Erection of Pier.....	Met. Asylums Board ...	*Official*	Sept. 14th	ii.
Fir Fencing.....	do.	do.	do.	ii.
Widening Windmill Bridge	Croydon Town Council	do.	Sept. 15th	ii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Surveyor and Inspector of Nuisances	Clevedon Local Board	Not stated	August 24th	xvi.
Surveyor	Teddington Local Brd.	200*l.*	Sept. 14th	xvi.

TENDERS.

BIRMINGHAM.—For new buildings, Park-road, Birmingham, for Mr. G. Toye. Mr. W. C. Howitt, architect, Murdock-road, Handsworth. Quantities by the architect:—

J. Webb	£1,338 0 0
T. Elims	1,245 0 0
T. Hughes	1,175 0 0
T. Pursall (accepted)	1,075 0 0

BROCKLEY.—For building six villas, Hazeldon-road, Brockley, for Mr. H. Connew. Mr. F. J. Handsombody, architect:—

Hale & Twitchen, Bow Common-lane (accepted)	£1,800 0 0

BROMLEY (Kent).—For the erection of new residence, Blyth-road, Bromley, Kent. Mr. Arthur Vernon, architect, Great George-street, Westminster, and High Wycombe:—

Silver & Sons.....	£2,820 0 0
Holland & Hannen	2,768 0 0
Woodbridge	2,423 0 0
Hunt	2,456 0 0
Crossley	2,426 0 0
Payne	2,415 0 0
Arnaud & Son	2,348 0 0
Balding	2,230 0 0

BURY ST. EDMUNDS.—For erecting Wesleyan Middle Class School and residence, for the East Anglian Wesleyan Middle Class School Company (Limited), Bury St. Edmunds. Mr. William Eade, architect. Quantities by Mr. A. Field:—

R. Dye, King's Lynn	£2,992 15 0
J. Robinson, jun., Bury St. Edmunds	2,838 0 0
J. L. Glassocck & Son, Bishop's Stortford	2,720 0 0
T. H. Kingerlee, Oxford	2,650 0 0
R. S. Smith, Ipswich	2,619 0 0
J. Shillitoe & Son, Bury St. Edmunds	2,600 0 0
J. Wood & Co., Camberwell.....	2,599 0 0
G. Dobson, Colchester	2,585 0 0
W. Saint, Cambridge	2,496 0 0
G. Grimwood & Son, Sudbury.....	2,485 0 0
H. Everett & Son, Colchester*.....	2,460 0 0
A. Andrews, Bury St. Edmunds.....	2,444 0 0

* Accepted.

CANNING-TOWN.—For alterations to new premises for Mr. D. Molenkamp, jeweller, Victoria Dock-road, E. Mr. Moore Smith, architect, Bishopsgate-street:—

S. W. Hart, Barking-road *	£355 0 0

* Accepted.

[No competition.]

CHARLTON (Kent).—For extension of warehouse, Holland-wharf, Charlton, Kent, for Messrs. White, Palmer, & Co. (Limited). Mr. Alexander N. Hansell, architect:—

T. Grover & Son (accepted)	£1,176 0 0

CHATHAM.—For new shops at Chatham. Mr. F. Pinches, architect:—

Allen & Sons	£784 0 0
J. O. Richardson	779 0 0
Skinner	615 0 0

CHELSEA.—For the erection and completion of new Vestry-hall, Chelsea. Mr. J. M. Brydon, F.R.I. B.A., architect. Quantities supplied by Mr. C. Fitz Roy Doll, F.S.I.:—

J. Garlick.....	£20,000 0 0
Tompsett & Kingham	19,479 0 0
O. Craske	18,883 0 0
T. L. Green	18,879 0 0
Lathey Bros.	17,800 0 0
H. Hart.....	17,734 0 0
Stimpson & Co.	17,700 0 0
Downs	17,678 0 0
Priestley & Gurney	17,600 0 0
Patman & Fotheringham.....	17,472 0 0
Brass & Son.....	17,435 0 0
W. & H. Castle	17,143 0 0
B. E. Nightingale	17,079 0 0
A. & E. Braid.....	16,850 0 0
J. T. Chappell.....	16,846 0 0
Martin, Wells, & Co.....	16,800 0 0
Howell & Son	16,480 0 0
G. Stevenson	16,350 0 0
J. O. Richardson	15,200 0 0
C. Wall (accepted).....	14,944 0 0

CLERKENWELL.—For Spa-fields new Church, Lloyd-square, Clerkenwell. Messrs. Lander & Bedells, architects. Quantities by Mr. Sidney Young:—

Dove Bros.....	£8,975 0 0
Williams	8,960 0 0
L. & R. Roberts	8,839 0 0
B. E. Nightingale.....	8,770 0 0
Grover & Son.....	8,749 0 0
Mattock Bros.	8,691 0 0
J. Brown & Son.....	8,650 0 0
Wall Bros.....	8,390 0 0
Allen & Sons	8,200 0 0
Thos. Wontner Smith & Son	7,900 0 0

COLCHESTER.—For the erection of a warehouse, &c., Wyre-street, for Mr. H. Branch. Mr. J. W. Start, Colchester, architect:—

S. Start	£219 7 0
H. Ambrose (accepted).....	194 14 0

DULWICH.—For alterations and additions to house, Alleyne-road, Dulwich. Mr. R. E. Tyler, architect:—

Philips	£270 0 0
Gibbs	149 0 0
J. O. Richardson (accepted)	109 0 0

ELTRINGHAM (Northumberland).—For new mixed school for the Eltringham School Board. Mr. Fred. B. Leighton, architect, Fence Houses:—

Lishman, Ryton-on-Tyne	£1,147 14 0
Weatherley, Newcastle-on-Tyne.....	1,141 3 0
Smithson, Prudhoe-on-Tyne.....	937 14 10
Robson & Fawcett, Corbridge-on-Tyne (accepted)	750 0 0
Hall, Prudhoe-on-Tyne	626 18 4

[Architect's estimate, £800.]

GUNNERSBURY.—For alterations to the "John Bull" Tavern, Gunnersbury, for Mr. Harrison:—

Burman	£1,200 0 0
Godden	1,100 0 0
Walker	1,007 0 0
Lamble	998 0 0
B. Cook (accepted).....	987 0 0
Pewtering.	
Davidson	£113 10 0
Helling	103 8 0
Heath.....	95 0 0
Saunders	73 10 0

HIGHGATE.—For alterations and additions to Nos. 108 and 110, Archway-road, Highgate. Mr. W. Smith, architect:—

Horwood	£597 10 5
Mattock Bros.	590 0 0
Durnford & Langham.....	567 0 0
Larke	560 0 0
Hirst	545 0 0
J. O. Richardson (accepted)	543 0 0
Stevens	438 10 0

LLANGARRON (Herefordshire).—For enlarging Trewarna Farm, near Llangarron, Herefordshire, for Mr. G. Parry. Messrs. Muggeridge & Powell, architects:—

C. Morgan (accepted)	£334 0 0

LONDON.—For the construction of a brick sewer and subway, and the formation of paved footways and carriageways in an intended new line of street between Regent-circus, Piccadilly, and West-street, St. Giles, for the Metropolitan Board of Works. Sir J. W. Bazalgette, engineer:—

W. J. Bouverie	£34,622 0 0
Neave.....	33,700 0 0
Killingback	33,000 0 0
Moss	31,978 0 0
Stubbs	31,637 0 0
Nowell & Robson	31,500 0 0
Webster	31,493 0 0
Mowlem & Co.	31,000 0 0
Williams, Son, & Wallington.....	30,400 0 0
Treherne & Co.	29,335 0 0
C. Wall.....	28,760 0 0
T. Adams	28,700 0 0
Turner & Son (accepted).....	26,687 0 0

LONDON.—For the erection of a destructor, chimney shaft, &c., at Wentworth-street, Whitechapel, for the Board of Works for the Whitechapel District:—

Bentley	£4,792 0 0
Chappell	4,600 0 0
Brass & Son	4,443 0 0
Nightingale	4,354 0 0
Morter.....	4,100 0 0
Dove Bros.....	4,100 0 0
Rider & Son	4,088 0 0
Mowlem & Co.	3,973 0 0
Perry & Co.	3,947 0 0
Mark Gentry.....	3,890 0 0
Ashby & Horner	3,847 0 0
Little	3,766 0 0
Pritchard	3,697 0 0
B. Cook	3,591 0 0

LONDON.—For alterations to the "Cambrian Stores," Glasshouse-street, Regent-street, for Mr. R. H. Barnes Mr. H. J. Newton, architect:—

Dixon & Jones.....	£148 0 0
B. Cook	113 10 0
Lee (accepted)	113 0 0

LONDON.—For building a new billiard-room and other additions and alterations at 13, Upper Wimpole-street, on the Duke of Portland's estate. Mr. Mark H. Judge, architect:—

	Contract No. 1.	Contract No. 2.
J. Andrews	£1,935	£2,480
H. Toten & Sons.....	1,850*	2,300

* Accepted.

MAIDSTONE.—For the erection of a Chapel for the "Strict Baptists," College-walk, Maidstone. Messrs. Ruck, Son, & Smith, architects, County Surveyor's Office, Maidstone. Quantities supplied:—

T. Elmore, Maidstone.....	£1,767 0 0
E. Wilkins, Loose.....	1,743 0 0
R. Avard, Maidstone	1,722 0 0
E. Vaughan, Maidstone.....	1,717 0 0
Wallis & Clements, Maidstone.....	1,697 0 0
Cox Bros., Maidstone*	1,648 0 0

* Accepted, subject to reductions.

MONMOUTH.—For building smithy, &c., for Mr. Charles H. Crompton Roberts, Overmonnow, Monmouth Messrs. Muggeridge & Powell, architects:—

Simmonds (accepted).....	£270 0 0

PONTYPRIDD.—For new children's block and additions to main building at Pontypridd Workhouse. Messrs. James Seward & Thomas, architects, Cardiff. Quantities supplied by architects:—

D. C. Jones, Gloucester.....	£7,086 0 0
T. Watkins & Jenkins, Swansea	6,190 0 0
D. J. Davies, Cardiff	6,100 0 0
James & Rees, Pontypridd	5,999 0 0
D. Davies, Cardiff	5,815 0 0
W. Symonds, Cardiff	5,569 0 0
W. Seaton, Pontypridd*	5,408 0 0
H. Brown, Cardiff	4,929 0 0

* Accepted.

PONTYPRIDD.—For houses at Ynysybwl, near Pontypridd, for the Cardiff and Glamorganshire Valleys Land and Building Investment Company (Limited). Messrs. James Seward & Thomas, architects. Quantities by architects:—

D. C. Jones & Co., Gloucester	£19,868 0 0
S. Lewis, Cardiff	19,390 0 0
H. Parfitt, Newport	19,237 2 0
D. Davies, Cardiff	18,580 0 0
D. J. Davies, Cardiff	18,346 0 0
E. Tanner, Gloucester	15,280 0 0
R. Parfitt, Pontypridd	14,567 0 0
W. Seaton, Pontypridd	14,000 0 0
Holland & Martin, Pontypridd	13,924 12 6
Shepherd & Son, Cardiff*	13,920 0 0
C. Jenkins & Son, Porth	13,200 0 0
C. Pring & Co., Pontypridd (informal)	12,435 0 0

* Accepted.

PORTSMOUTH.—For new public hall, club, and offices, to be erected in the Commercial-road, Landport, Portsmouth, for the Directors of the Gladstone Buildings Company (Limited). Mr. G. Rake, architect, Portsea. Quantities supplied by Mr. H. P. Foster, John-street, Adelphi, London:—

S. H. Kingerlee	£14,102 0 0
Stevens & Sons	13,589 0 0
W. R. & C. Light	12,074 0 0
Bull, Sons, & Co.	11,898 0 0
G. Burbidge	11,885 0 0
T. P. Hall	11,838 0 0
J. H. Corke	11,729 0 0
D. W. Lewis	11,416 0 0

RETFORD (Notts.).—For enlarging factory for The Northern Rubber Company, Retford, Notts. Messrs. Muggeridge & Powell, architects:—

G. Ledger	£1,917 0 0
J. Fish	1,120 0 0
R. & C. Swannack	1,098 0 0
G. Fenton (accepted)	1,075 0 0

SCARBOROUGH.—For alterations to Londesborough Theatre, Scarborough. Messrs. William Lewis & Son, architects, York. Quantities supplied by architects:—

Jowsey	£270 0 0
Barry	257 6 0
Bastiman & Sons	238 0 0
Petch & Fox*	236 10 0
Manson	225 0 0

* Accepted, extra contract £11 13s. 3d.

SOUTHWARK.—For alterations and additions to Nos. 79 and 81, Borough High-street, for Mr. Aubrey Hyman. Mr. J. Douglass Mathews, architect:—

Gilbert & Gayford	£272 0 0
Yardley & Son	219 0 0
Ramer	200 0 0
Mills & Son	195 0 0
Salter (accepted)	178 10 0

TOTTENHAM.—For the extension of sewage works, for the Tottenham Local Board of Health. Mr. A. H. de Pape, engineer. Quantities by engineer:—

Contract No. 1:—Construction of Straining Chambers, Tanks, Sewer Extensions, Penstock Chambers, &c.

	A.* £ s. d.	B.† £ s. d.	C.‡ £ s. d.
J. W. & J. Neave Leytonstone	18,762 0 0	17,975 0 0	17,500 0 0
B. Cooke & Co., Battersea	16,290 0 0	14,800 0 0	14,500 0 0
C. Wall, Chelsea	15,406 0 0	14,806 0 0	14,806 0 0
Patman & Fotheringham	15,300 0 0	15,150 0 0	15,000 0 0
J. Bloomfield, Tottenham	14,053 12 3	13,354 11 6	13,412 3 6
W. Brass & Sons,§ 47, Old-street	13,964 0 0	12,964 0 0	12,464 0 0

* With special blue brick coping.
† With ordinary bull-nosed coping.
‡ With concrete block coping.
§ Accepted for concrete block coping.

Contract No. 2:—Smith and Founders' Work.

J. W. & J. Neave, Leytonstone	£1,891 0 0
Waller & Co., Holland-street, Southwark (accepted)	1,599 0 0
Davis & Pearson (informal)	—

[Quantities by Engineer.]

Sludge Presses.

Johnson & Co., Stratford (accepted)	£1,750 0 0

WESTMINSTER.—For alterations and additions, No. 2, Wood-street, Westminster, for Messrs. Nicholls & Co. Mr. Thos. Newell, architect. Quantities supplied by T. Marcus Houghton:—

J. Foster	£1,866 0 0
Pemberton	1,650 0 0
Lucas & Son	1,440 0 0
Stevens & Co.	1,300 0 0
G. T. Smith	1,288 0 0
W. & D. McGregor	1,200 0 0
J. Crapper	1,181 0 0
C. F. Kearly	1,145 0 0
Goodman (accepted)	1,129 0 0

YORK.—For erecting fourteen houses, first portion of an estate at Clementhorpe, York, for Mr. W. H. Waddington. Qantities supplied by architects. Messrs. W. Lewis & Son, architects, Stonegate, York:—

Whole Tenders less Ironmonger.

Galtry	£1,632 0 0
Clark and Ward	1,379 15 0
Kilvington	1,294 0 0
Lister	1,293 10 0

Rebuilding 85 *and* 86, *Berwick-street, Soho*.—In the list of tenders for this work, given on p. 210, the architects' names should have been given as Messrs. "Burden & Milnes," not "Barden & Milnes."

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